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Journal of Horticulture.

THURSDAY, JULY 6, 1899.

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HEAVY CROPPING TOMATOES.

UNDER good culture the Tomato is a prodigious cropper, and it is indeed marvellous to note what a tremendous weight of fruit a single plant will produce. New varieties are being continually placed upon the market, and in the majority of instances the advance they show over some older ones is in the matter of heavy cropping, yet I am inclined to doubt if there is yet a variety which will produce a heavier crop than the various selections from the original old red type. Conqueror, and Sutton's A1 have undoubtedly been raised by selection from the old red, and although the fruits are corrugated, the crop is so heavy that for early working I have seen nothing yet to beat them, and, from a commercial point of view, I fancy they are more satisfactory than any other variety which could be named, notwithstanding the fact that corrugated fruits do not command so high a price as smooth ones.

Winter Beauty I have not seen, but as it contains some of the Conqueror blood, with an improvement in form, it should be an acquisition—provided this was not obtained at the expense of productiveness. At the present time I have one side of a house occupied by Sutton's A1, and a more wonderful crop I have never seen. A photograph conveys but a faint idea of a Tomato crop, because the fruits at the top of the plants are only beginning to swell, while those at the bottom are being cut; were it not for this fact I should be inclined to send a photograph for reproduction. Both Lawrenson's No. 3 and Up-to-Date are wonderful croppers in the round fruit section, and they set splendidly in all kinds of weather. Still I have two varieties of my own which are quite as satisfactory in all these respects.

Last year we grew Challenger, Frogmore, and Eclipse in quantity. The flowers of these were touched with the rabbit's tail daily, and seed saved from the best shaped fruits. In a young state the plants raised from seed taken from plants of Frogmore showed the marked characteristics of that variety in regard to growth, and plants raised from the other two varieties also possessed the true habit

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of the parent plant, but there is really very little difference in the appearance of the fruit on all these, except in a few instances where each is still true to the original. The bulk of the plants are prodigious croppers, the fruit being round, very slightly ribbed, and the flower trusses are borne in great clusters instead of single trusses, each producing from twelve to twenty fruits. It seems to me that the single truss varieties, such as Ham Green, will have to make room for those which bear large clusters of flowers, as the latter are invariably the heavier croppers. Close attention to selection may, perhaps, in time result in the production of sorts which bear such beautifully smooth fruits as Châmin Rouge in large clusters. This variety, which is so largely grown for market, is perfect in size and shape, but there are many that bear heavier crops of fruits and also weigh better.

Many growers adopt the plan of growing only one variety, which they improve by selection each year. This practice has undoubtedly some advantages, not the least being that fruits of uniform size and quality can be depended upon; but to my mind, when the same stock is grown year after year, the productive qualities of any particular variety deteriorate; there is nothing like the introduction of fresh blood to maintain vigour and productiveness. Instead of growing only one variety, why not grow two—such as Frogmore and Châmin Rouge, or Up-to-Date and Lawrenson's No. 3, then artificial or natural fertilisation should be the cause of combining in the progeny the good qualities of the several varieties, and the "mixture" of blood would, I feel certain from observation, have the result of maintaining the vigour of our stocks, and, if possible, giving us still more productive varieties. There must, I suppose, be a limit to possibilities on this point, but, judging from the improvements gradually being made, we have not yet reached the climax.

Feeding is an important matter in bringing heavily cropped plants through satisfactorily. Those who plant in a good depth of soil perhaps find their plants are inclined to grow too strongly in the early stages, and therefore do not begin to feed till a good proportion of the fruits attain a considerable size. Our plants grow very strongly, so strongly in fact that visiting growers express the opinion that they should fear getting only a poor set with such vigorous plants; but I find such misapprehensions quite unnecessary in our own case, as results show, and we begin to feed as soon as the fruits on the first plants are as large as beans.

But it should be stated that the plants are all grown in borders 15 inches in width and 9 in depth, and they are planted in ordinary garden soil not very rich. The fruit sets so freely that unless feeding is practised thus early the plants cease to grow as rapidly as I like them. Chemical manures are used as a top-dressing, and liquid manure is given occasionally. If these are too freely used as the fruits are approaching ripeness they become soft, but by ventilating liberally and cutting the fruits before they are quite ripe this defect is avoided.

When one considers the enormous quantities of Tomatoes sent to our markets it must, I think, be conceded that this industry is one of the most important connected with horticulture, and I think—when well carried out—one of the most profitable, as with reasonable attention a full crop may be secured with certainty, and with just as much certainty disposed of, though sometimes at rather too low a figure.—H. DUNKIN.

NEGLECTED CREEPERS.

PICTURESQUE dwellings are not only rendered prettier by judiciously planted and trained creepers, but many a severely plain building is redeemed from downright ugliness by natural drapery. The late spell of drought, however, emphasises the fact that not rarely is the little attention they demand, and which their important position entitles them to receive, wanting in their hour of need. Some there are, certainly, of such vigorous constitution and cleanly habit as to be able to hold their own against all the ills that creepers are heir to, such as the Wistaria, which, by-the-by, I have never seen affected with spider, fly, or any other kind of beastie, but these are the exception rather than the rule.

Evergreens, chiefly represented by Ivies, make, too, a brave fight against hard times, but the insidious red spider vexes them sorely, and often entails that unhappy appearance which spells neglect—this on the sunny side which for a dwelling is generally the most important position. The projecting eaves of buildings not seldom deprive creepers of their due share of heaven-sent moisture, and given such good Ivies as pedata, conglomerata, and scutiformis, with golden, silver, and tricolored varieties, they, surely, are worthy of a little attention from the ministering hand. It is an excellent plan, immediately after the annual spring trimming, to give the whole a thorough washing. On the larger scale, with lofty buildings and fire extinguishing appliances to hand, if water is applied with some force from the hose-pipe it is able to dislodge all dust, dirt, or debris which a season collects, and is both a cure for present evils as well as a

preventive of others to come. On the smaller scale the garden engine or syringe will do the work effectively.

The present time, however, is our immediate concern, and more drastic measures may be necessary to rout the enemy. Softsoap, in a solution of from 2 to 4 lbs. to the gallon of water, applied in the cool of the evening is a simple and safe remedy, and if used warm is more effective. It should not be overlooked that troubles above often proceed from causes below, poverty as well as drought being accountable for dirt and disease. A thorough soaking to the roots, following on a forking-up of the surface soil, to which, if the plants are strong, a liberal sprinkling of chemical manure may be given, will prove to be both grateful and comforting to the starved recipients.

With climbers, in no case is neglect more apparent than where Roses are employed. Banksian Roses seem to escape fairly well, but although their good qualities comprise cleanly habits and a practically evergreen nature, they are rarely seen. It is, alas! pitiful to note, as one often does, fine old bushes of multiflora and others of that ilk struggling under a burden of aphids. A good washing of quassia water, with which a little softsoap has been incorporated, is cheap and effective, and one thorough cleansing will probably be found sufficient for a season, owing to the bitter properties of the quassia being retained for some time on the plants. Not less is neglect too often apparent in the way of a little judicious pruning, training, and tying; such simple matters not seldom being deferred until a hopeless tangle leaves little alternative to that of shearing off the whole mass to the bone.—INVICTA.

BLOSSOM BUD FORMATION.

THE Editor wrote, on page 467, "Mr. Abbey seems to be resting." "Resting" implies work done, but searchers for truth in matters still obscure have never done. Blossom bud formation was discussed in the *Journal of Horticulture* several years ago, though the terms were somewhat differently expressed than in the present case.

1, *What is a blossom bud?* A flower bud, as confined exclusively to the Apple and Pear (to which Mr. Picker's original article solely refers) is a terminal or axillary one, containing one or more incipient flowers within the leaves. Thus the blossom bud of an Apple or Pear is a compound bud—it contains flowers and leaves. The flowers are distinct—wrapped up in their own floral leaves, and situated within the ordinary leaves, which have an outer covering of scales. All the rudiments of the future flowers and leaves are found in such bud, not only in spring but at the fall of the leaf.

The flowers are perfect—the central axis represents a definite number (though variable in different buds) of flowers, each flower with a determinate amount of ovaries and ovules with appropriate pistillate organs, which, with the outer covering, form the fruit, this bearing externally and at its apex the calyxes, petals, and staminate organs of fructification.

2, *How is it formed?* By transformation of the growing point or central axis into a series of pomes instead of stems, which bear within them the counterpart of the parent—root, stem, everything—subject to the quickening influence of the pollinary element. It originates, like a leaf bud, in the horizontal or cellular system, and is formed under the bark at the extremity of the medullary rays. The bud usually forms at the base of leaves, as in the case of spurs, or in the axil of a leaf, as occurs in some cases when the buds on the current year's growth develop into blossom buds, whether terminal or lateral.

In principle the bud is formed by the leaf—or, rather, the matter it elaborates, and which the plant concentrates for a definite purpose. In the case of a wood bud for an increase of parts of the parental plant, and in that of a blossom bud for reproductive purposes. But the leaf doctrine receives very little countenance from the fact that stems, underground or aerial, can produce buds, and these both leaf and flower. In tracing the matter the more we become involved in inherent tendency, which is practically governed by environal circumstances.

3, *What helps and what hinders its production?* This is controlled both by inherent tendency and external circumstances, but more by the former than the latter. Some Apples and Pears are notoriously prolific. The Hawthornden race of Apples bear early, but Blenheim Pippin and the Russet tribe are slow in coming into bearing. Richness of soil, a climate favourable for growth, severe manipulation, and the like, promote growth. On the other hand, relative poorness of soil, drought as opposed to wetness, checks to growth resulting from root pruning, and the concentration of force, as induced by the employing of so-called dwarfing stocks, induce blossom. Manures, too, exert an influence. Nitrogenous kinds prevent or defer blossom bud formation, while even potassic forms, without lime, also promote leaf development. Lime, however, with phosphatic and magnesian elements, incites fruitfulness in many cases.

4, *If, and in what way, a blossom bud can be changed into a growth bud?* Still adhering strictly to Apples and Pears, I may say that of many buds examined for various reasons, but more especially

to note at what time the transformation from a leaf bud to a flower bud takes place, not any change whatsoever has been revealed by the microscope. The tree determines whether it shall form leaf buds or flower buds, and it acts upon the principle solely and absolutely of inherent tendency, constitutional energy, race vigour, and hereditary proclivities in strict accordance with the circumstances in which it is placed.

No change from a growing point to an embryonic pome takes place in a bud, consequently the leaf bud retains its original character and is surrounded by leaves. If the growing point be differentiated into embryonic Apples and Pears surrounded by leaves in the buds, no change can possibly occur except into a cluster of similar points, which change no one has any likelihood of seeing, for an ovule means the growing point transformed into a plant capable of a separate existence by sexual process.

A flower bud of the Apple or Pear contains, as before stated, both embryonic flowers and leaves. Some of the trusses in Pears have leaves mingled with the flowers, hence it is not unusual to see growth amongst the fruit and extending beyond it. Thus a blossom bud may not only contain flowers and leaves, but also buds or growing points. This three-fold formation occurs in the wild Pear, therefore the principle is inherent, and means that the tree has an hereditary power to form a bud in accordance with "adventitious circumstances" or otherwise.

In everything we come to the simple vesicle or cell. From that cell no one can tell what the plant to which it belongs will put forth. Certainly there will be cellular tissue if a multicellular plant, but whether it will form a leaf bud or a flower bud at the first onset rests with the plant. Of this I have some curious records, but as they do not refer to Apples and Pears they are passed.—G. ABBEY.

PLANTING VEGETABLES.

THE experience of your correspondent, "N. J.," related on page 497, are exactly coincident with my own with regard to the planting of vegetables—Sprouts, Cabbage, and Borecolea. I have long since regarded wet and heavy soil as totally unfitted for the planting of these in the ordinary way, for two reasons. Slugs, as remarked by "N. J.," do considerable mischief in wet weather, and there is not the same ease in combating them as when the ground is dryer. Large earthworms, too, are almost equally destructive among small plants. When the dibbler is used for planting, and this is shod with steel at the point, it gives the holes a glazed-like smoothness which checks the passage of water and hinders the root growth of the plants. This happens, of course, only in firm soil; that which has been freshly dug does not present these difficulties, but firm ground is always preferable for general planting, more especially for the stock intended for the winter.

I much prefer, and find plants do better when the ground is in a dryer state, that is, in heavy land, or that inclining to clay. It is a different matter in light, gravelly, or sandy soils, which allow of their being dug as soon as it ceases to rain. These are some reasons why the planting of vegetables is better done in dry weather than in wet.

There has been no cause for complaint, however, on the score of planting in wet weather for several seasons now—that is, summer planting: the difficulty has tended in the opposite direction. Lately the planting of any of the Brassica family has presented many difficulties, on account of the great heat, accompanied, as it was, by dry searching winds. It has been so severe, that even with sufficient root moisture to meet ordinary demands, the scorching influence of the sun has rendered it most difficult to retain sufficient vitality in the plant to justify extensive plantings. Cauliflowers more than any other, even those established before the first June sun had set, have had a struggle for useful existence, the early summer sorts in particular. Premature "buttoning" has and will be in evidence among this section, and retarded growth, in like manner, will be common experience in the main crop varieties. A quarter of an inch of rain and a cooler atmosphere occurring on the 18th, and again on the 19th of June made a welcome change, and afforded an opportunity for further planting of autumn and winter vegetables.

Rain following such a period of summer drought makes an ideal time for this work, and is vastly different from planting when the ground is made very wet from oft-recurring storms. Light soils exposed to such tropical sunshine become like a veritable hotbed; water unless given often, and this covered with dry soil, or short litter, is evaporated at a very rapid rate. It does not avail much to plant largely in such weather, small numbers, or as many as can be regularly watered daily, may be made to succeed, excepting, perhaps, summer Cauliflowers and Lettuces.

Salt is a good repellent of the slug and earthworm among newly planted vegetables, applied in reasonable quantity, and stirred into the soil with the hoe or rake as soon as it is applied. By treating it thus it imparts moisture as well as coolness to the soil, and to such as Beet-root, Spinach, Onions, Peas, and the varied Brassicas, salt acts as a stimulant when scattered thinly and evenly over the ground. For three weeks previous to the 18th ult., when such intense sun heat and dry winds prevailed without intercession, salt could not act beneficially unless, as previously intimated, it was buried beneath the surface and out of the influence of elements of which so much complaint has been made, because its property evaporated instead of gravitating to the roots below.—W. S.



ODONTOGLOSSUM HARRYANO-CRISPUM.

IN view of the conference on hybridisation that is to take place next week under the auspices of the Royal Horticultural Society, hybrid Orchids and other flowers become more and more interesting. At the Drill Hall, on Tuesday the 27th ult., Mr. W. H. Young, Orchid grower to Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, sent *Odontoglossum Harryano-crispum*, for which the Orchid Committee recommended a first-class certificate. The name tells from what parentage this hybrid has come, and a glance at the woodcut (fig. 1) will show how strikingly handsome is the flower. The sepals and petals are white flushed with rose at the tips, and with immense



FIG. 1.—ODONTOGLOSSUM HARRYANO-CRISPUM.

blotches, bar and spots of bright brown. The magnificent lip is white, quite pure on the front lobe, and the brown colour is arranged with wonderful regularity on the central portion and the side lobes.

ODONTOGLOSSUM CITROSUM.

I KNOW of no other Orchid, not even *Calanthes*, that is so easily spotted and disfigured by damp as *O. citrosum*, and one of my correspondents sends me a flower with the sepals spotted from this cause, under the impression it was natural. As soon as possible after the flowers commence to unfold the plants should be placed in cool dry quarters, and great care taken that no water reaches the spikes. In spite of the many ways that this pretty species may be shown to advantage, some exhibitors of Orchids persist in tying up its beautiful pendant spikes, or hanging them over the edge of the stage, for the spectators to knock about with their knees and fingers.

DISA RACEMOSA.

Besides being one of the easiest to grow, this is also one of the prettiest of *Disas*, and has a fine effect when grouped with cool Orchids of the *Odontoglossum crispum* type. The spikes of rosy flowers have a far more graceful appearance than those of *D. grandiflora* or *D. Veitchii*, though, of course, they are not nearly so showy as either, as far as the individual flowers are concerned. The plants grow well under the conditions as advised for *D. grandiflora*—a cool moist house, with very free currents of air moving about them and light syringings, being quite to their taste.

ORNITHOCEPHALUS GRANDIFLORUS.

This pretty plant will not suit those who have only eyes for large and showy blossoms; but to those who like distinct and interesting species, it will always appeal strongly. The flowers come in the forming growth, and occur on arching racemes, rather closely packed, the individual flowers being yellowish white, with a green blotch at

the base of each sepal. *O. grandiflorus* is of easy culture in a house kept rather warmer than the *Odontoglossum* house, and should be suspended near the light in small shallow baskets of peat and moss. It is a native of the Organ Mountains in Brazil.

CATTLEYA MOSSIE AUREA.

The varieties of *C. Mossie*, with a yellow zone to the lip, are quite a distinct section, and I was rather surprised to note so few at the Temple recently. Much seems to be thought of the striped section, but, personally, I greatly prefer a flower with well defined colouring, and clear cut blotches on the lip. One of the variety above named flowered with us for the first time last year, and is now stronger and flowering again. The yellow on the lip is clear and well defined, spreading over a large area. The sepals and petals are a soft rosy lilac tint, fine in substance, but seldom opening to the fullest extent.

CATTLEYA SUPERBA.

Some of the late coloured varieties of this delightful species are grand improvements on the type, and one such reaches me from a correspondent. I have seldom seen a finer coloured form, though last season I noted one in Mr. R. I. Measures' collection at Cambridge Lodge equally good. The colour on the lip lobes is really a magnificent tint of intense purple crimson, and the flower itself is of medium size. By its flowering thus early it may possibly be a newly imported plant, and if so it would be wise not to allow the flowers to remain on too long. The species likes more heat and sunlight than most *Cattleyas*, and often does best in the East Indian house.—H. R. R.

THE TURNIP FLEA.

ALTHOUGH this is such a small insect it is one that can give considerable inconvenience and annoyance among Turnips or any of the Brassica family. Some gardens and soils seem more addicted to them than others. Lime and soot is the oft-repeated remedy advised, but in hot summer weather they defy even this. Dust sweepings from the highway I have seen employed with very good results, but a remedy that proves as good as any with me is Elder boughs brushed over the ground newly sown in the early morning. This is an old-fashioned antidote, but is so simple and effective that it still retains a value.

Rolling of the soil in the early morning, when dew is still present, is adopted by some growers with fairly good results; so is syringing with a petroleum emulsion over the bed. The latter, however, is risky in bright weather, in that the plants are liable to be burnt with the sun acting on the petroleum. There have been great numbers on the Cabbage bed this summer, and encouraged by the continuous sunshine they migrate to other parts of the garden even to anticipate the springing up of newly sown seeds.

I have not had an opportunity of learning much of their winter haunts and habits, but they appear very early in the spring. It is not often that I am able to get more than one or two sowings of early Turnips free of them, and maincrop Cauliflower, Broccoli, Winter Greens, and Savoy are rendered very uncertain through their interference. Certainly they are not much affected by the weather, as neither wet, cold, nor frost stays their depredations.

A simple and cheap expedient for dealing specially with the Turnip fly would be welcomed by many gardeners, and the wonder is that it has not engaged the attention of specialists more than seems to have been done in combating so destructive and persistent an enemy of the garden. In showery weather stimulating manures force their growth beyond the fly's resources, but in dry weather the opposite happens.—R. A.

AVENUES OF LILACS.

I MUST confess to having as yet never seen or heard of a veritable avenue of Lilacs. The idea of such occurred to me after seeing in a local nursery a long row of standards, comprising several varieties, such as Charles X., with its bright red flower buds and deep lilac expanded flowers; President Carnot, large panicles of semi-double, pale lilac coloured flowers; President Grévy, double-flowered, lilac in colour; La Tour d'Auvergne, a fine double-flowered rosy lilac variety; Alphonse Lavallée, the double-flowered buds are deep rose, and expanded violet coloured flowers in large trusses. The foregoing were intermixed with the following white-flowered varieties:—Madame Lemoine, no doubt the best of all the white double-flowered varieties, its panicles and the individual flowers being exceptionally fine, and pure white; Marie Legrange, a great improvement on the old single white, the habit more compact, yet sufficiently vigorous and deliciously scented, inasmuch that, charming also as is the old-fashioned white (*Syringa vulgaris alba*), it must be eventually superseded when the former becomes better known and abundant.

It was refreshing to find standard specimens of both the purple and white varieties of the Persian Lilacs with their slender branches, small blossoms in multitudes of trusses, the white-flowered variety especially being very attractive, and at a distance reminding one of the white Spanish Broom (*Cytisus albus*). An avenue of one or more of the above

varieties situated in a suitable position in the pleasure grounds would afford quite a unique feature, and remain ornamental even after the flowering period, or when in a deciduous state during the winter.

Moreover, if confined to standards from 3 to, say, 5 feet high, how readily available their deliciously fragrant flowers would prove to the olfactories of the passer-by, without the trouble of gathering, as compared with the tall-growing specimens usually seen on the lawn or in the shrubbery!

The system indicated need not be confined to Lilacs alone, as there are several other kinds of ornamental flowering trees and shrubs that would lend themselves to such a purpose; for instance, the double-flowering Thorns, Laburnums (especially the lovely *Cytisus Andreanus*), Gueldres Rose (*Viburnum Opulus*), and Rhododendrons would form pleasing contrasts, and a relief to such as standard or pyramidal Hollies, Golden Yews, Portugal Laurels, and other shrubs, and if kept properly trained to form as symmetrical heads as possible, they would prove in the deciduous state more ornamental than the ordinary form of standard Roses.—W. G.

ROYAL HORTICULTURAL SOCIETY.

PEAS AT CHISWICK.

A MEETING of the R.H.S. Fruit and Vegetable Committee was held in the Chiswick gardens on the 29th ult. to examine early Peas, &c. There were present Messrs. P. Crowley (Chairman), Balderson, Barron, Smith, Mortimer, Dean, and Pope. The Pea trial included some sixty-five stocks, several of which are standard varieties grown for reference. About one-third of the entire number were ready for inspection, amongst these being several very dwarf and not good, not cropping well, and some others that had been so badly selected that they included more than two varieties. The best were found in Duke of Cornwall, 5 feet, good cropper, pods long, well filled, peas green and excellent quality; and Alderman, here supplied by an amateur as "selected," an appellation to which the Committee objected, as the stock is identical with what is now so abundant in commerce. This very fine Pea rises to nearly 6 feet in height, is very prolific, pods very large, well filled, and peas of great excellence. The variety is one of the finest for exhibition. Both these Peas received three marks. Taber's Duke of York, 4 feet, certificated some four years since, was excellent also. A few were good cropping Peas, but the pods and peas lacked colour, and were rather dry eating. Besides good flavour, good deep colour is now indispensable in new Peas. The batch of Peas was sown on March 5th. Acme, one of last year's selection, 3 feet, sown in April, was very early and prolific. A group of Lettuces, both of Cos and Cabbage forms, was examined, some old varieties, such as Paris White, and Pyramidal Brown Cos, and Continuity, All the Year Round, Crystal Palace, Leyden White Dutch, and Early Market, were capital. A late Broccoli, sent by Mr. Beale of Loughborough, rather small samples, was thought by some members of the Committee to resemble the Chou de Burghley. It was agreed to call the Committee together at 11 A.M. sharp on Tuesday next to examine Peas before sitting to the table at 12 P.M. in the tent.

[The heads of the Broccoli sent to us a week previously by Mr. Beale were first-class full average sized market samples, finer than any Chou de Burghley we have seen, and we have grown many hundreds from seed direct from the late Mr. Gilbert of Burginley.]

THE DRILL HALL MEETINGS.

The unfortunate collapse of a long length of tabling at the last Drill Hall meeting was doubtless due to the exceeding heavy weight placed upon it, because crowding of exhibits is the only way to enable these products to be staged, so many are they. Could each exhibit, exclusive of the Roses, in competition have had its proper space a hall fully double the dimensions of the Drill Hall would have been filled. Should another Rose show be held at the hall at any time, I hope some steps will be taken to arrange the miscellaneous sized boxes in which flowers are staged into presentable order, for if the exhibitors can grow Roses, at least many of them seem to be lacking in the requisite taste for setting off their exhibits gracefully. A centre of plants, or something of that description, to the tables would hide many deformities. But it is so very evident that something must be done, either to meet the requirements of the exhibitors or those of the Drill Hall, that not a moment should be lost in dealing with the matter. Either a far larger hall must be provided, and where or how heaven knows, although plenty of persons talk about such provision very glibly, or there must be a very hard and fast rule operating during the summer, that the space allotted to each exhibitor must be severely restricted. If all exhibitors would bring only of their best, much good would result. Unfortunately, there is more desire to make a big show than to make a small but a very excellent one. In spite of all that has been written in remonstrance, the Drill Hall meetings are regarded far too much as flower shows, whereas their primary object is to enable new or essentially high-class products to be seen. Quantity is far from being all that is desired. Much less of material and less crowding with higher average quality are the essentials to good meetings, and with these the Drill Hall may satisfy all necessary requirements for many years.—D.

[The crushing and crowding of plants and people in the building in question cannot, we are convinced, long continue without prejudice to the interests of the Royal Horticultural Society.]



ULSTER HORTICULTURAL SOCIETY.

On Tuesday and Wednesday, November 14th and 15th, the St. George's Covered Market at Belfast should be bright with Chrysanthemums—that is, if growers respond as they ought to do to the invitations of the above Society. The Committee shows commendable enterprise in offering some very generous prizes, and there is little doubt some magnificent blooms will be staged. For example, there is an open-to-all class for twenty vases of Japanese, each to contain three blooms of one variety, for which the prizes are £25, £15, £8, and £5, and despite some difficulty in transporting the flowers, this class ought to be very strong. Then there is an Ulster class for forty-eight Japs, in not less than thirty-six varieties, that takes £22 for its three awards. Besides these there are about eleven dozen other classes from which all growers ought to be able to select something suitable to their calibre. The Secretary is Mr. J. MacBride, Victoria Square, Belfast.

NATIONAL CHRYSANTHEMUM SOCIETY'S ANNUAL PICNIC.

THE annual picnic and outing will, by the kind permission of the Right Hon. the Earl of Rosebery, K.G., take the form of a visit to Mentmore, Bucks, when the gardens and magnificent grounds will be open to inspection, and from them fine views can be had of the surrounding country. The date fixed for the picnic is Monday, July 17th, and the cost, inclusive of railway fare, conveyance to and from Mentmore, dinner and tea, will be 9s. 6d. for members and 10s. for non-members. Ladies are specially invited.

The company will be conveyed to Cheddington station on the London and North-Western Railway, from which there is a pleasant walk to Mentmore, about one-and-a-half mile through fields. Conveyances will meet the train at Cheddington for such as may be disposed to ride, the cost of which is included in the ticket for the day. Dinner and tea will be provided in a tent on the village green of Mentmore, which is close to the gardens.

Railway tickets are available from Euston, Camden Town, and Addison Road, changing at Willesden in the two last cases. Members and friends not using railway tickets will be charged 6s. for conveyance to and from Mentmore, dinner and tea. Cloak rooms will be provided for ladies.

Early notice to Mr. Richard Dean, V.M.H., Ranelagh Road, Ealing, is absolutely necessary from those who desire tickets.

THE INDIARUBBER PLANT.

Ficus elastica, the Indiarubber plant, is popular as a decorative plant for rooms and windows, as a good specimen from 1 to 3 feet high, with thick stem and dark rich green glossy leaves, presents an attractive appearance. With proper treatment they remain some time in this condition, and if grown in a cool shady room the plants succeed better than in a dry and heated atmosphere. One point which helps to maintain them healthy is frequently sponging the leaves so as to free them from dust. This is an easy matter with *Ficus elastica*. Both sides of the leaves should be sponged, using soapy water. The most likely insect to attack the leaves is that little black insidious pest known as thrips, which soon do damage.

The growth of *Ficus elastica* has the tendency to extend as one stem only, and very handsome plants are formed while they remain within a length of 4 feet. Young stock may, however, be topped at an early stage, and this will cause lateral growths to break, two or three of which can be allowed to extend for forming plants of a more bushy habit. This is chiefly a matter of taste, and adapted in cases where numbers of plants are grown.

Suitable sized plants may be grown in from 5 to 8-inch pots. These are useful for room and window decoration, and for the side stages in the conservatory. Turfy loam, leaf soil, sand and charcoal, with the addition of a little peat, form an excellent compost. Plants that have been growing freely the last few months may now require a shift so that they will become established before winter and the pots filled with roots. Pot firmly, making the fresh material as substantial as the ball of roots. The pots ought to be clean and well drained.

Watering is not a difficult matter with these plants, but it is often mismanaged in the case of house plants. What is wanted is regular attention, not exactly at stated periods, but some time every day or every other day. Apply water in sufficient quantity to pass right through the ball of roots, and wait until more is needed. Just after potting one good watering will suffice for some time, but when the pots are becoming well occupied with roots water is needed oftener. A fairly light, but not a sunny position, suits the Indiarubber plant best, and if the house or window is hot, shade should be afforded during the hottest portion of the day. Sour soil caused through errors in watering is the chief cause of

the lower leaves turning yellow before they ought to do. It is natural for the lower leaves to fall, but when they do so the leafstalk separates readily from the stem.

Another cause which will throw the plants into bad health is allowing them to become very dry when the pots are full of roots. If temporarily this should occur, the best course to rectify it is to plunge the plant into lukewarm water in order to moisten the soil and roots completely.

When well established and growing freely cool treatment is the best, but in spring, after repotting, or when propagating, heat and moisture are essential for encouraging new growth.—E. D. S.

CURIOUS GROWTH IN A POTATO.

EVERYBODY knows that the noble tuber will often super-tuber, and even produce tubers without tops, sometimes when set in the spring and at others when planted at midsummer or later for producing new Potatoes for Christmas. Indeed, I do not know what the popular Potato will not perform to maintain its own in the struggle for existence.

The specimen, fig. 2, *A*, was black, and had probably been "pickled" or salted to prevent its growing and to keep in weight, for all the eyes were dead, and the sprouts (*a*) reduced to mere skeletons (cellulose).

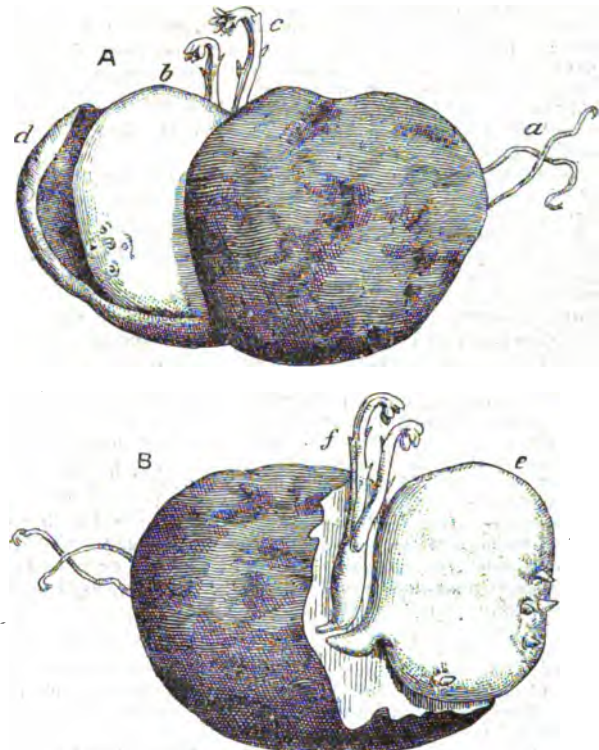


FIG. 2.—POTATO WITH TUBER AND SPROUT FORMED FROM CUT PART. (Natural size.)

References.—*A*, cut tuber, showing: *a*, dead sprouts; *b*, new tuber; *c*, young sprouts; *d*, heel end of old tuber. *B*, tuber from another point of view; *e*, new tuber; *f*, sprouts.

It was "resting," but nothing in Nature does that. Though the "eyes" were gone I knew, from experience, that the Potato would form new stems or tubers, and on these produce buds. Thus the Potato, cut transversely nearly through, produced buds on the raw surface, and from the formative layer, which passes through a tuber from heel to eye, and may give rise to a bud from a simple cell.

In the present case there appeared on the cut part and descending axis the growing points (for there are two) or buds—to wit, a tuber (*b*) with eyes, and some sprouts (*c*), the heel of the Potato being pushed outwards (*d*). The old Potato was almost black externally, therefore the sprouts and tuber were put forth from the white flesh, and all these were quite white.

In the illustration (*B*) is shown the tuber (*e*) as growing, exactly like a Mushroom, from the flesh of the Potato; and also the sprout (*f*), with a thickened stem, like a toadstool; but this formed three sprouts (there is one behind, and not perceptible), and these formed leaves—the small ones bract-like on their stems, with buds in their axils. The sprouts were perfect, and the tuber, though white, with a little russet here and there, had seven eyes or buds, five at the nose and two at the side, though I am only able to figure one.

I think this deserves a place in the *Journal of Horticulture*, and may throw some light on the bud formation question. At any rate, it shows there has been no "resting," and that is not all, for when the noble tuber had done this, as sketched on June 24th, it also was pushing cellular tissue around the eyes and through the flesh, from the formative layer of the central axis, and again forming externally, but only discernible by a lens enlarging ten diameters, the growing points—tubers, or really stems, with buds or eyes.—G. ABBEY.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE SIXTIETH ANNUAL FESTIVAL DINNER.

THE annual dinner of the Gardeners' Royal Benevolent Institution may be looked upon as one of the functions illustrating the social side of horticulture, for not only is some person of quality in the chair, but men of light and leading in the world of gardening are always well represented. The Diamond Jubilee dinner of the Institution, which took place in the Whitehall Rooms, Hotel Métropole, on the evening of the 28th ult. was no exception to the rule. The chair was graced by the presence of the Rt. Hon. the Earl of Derby, K.G., G.O.B., and with him, as the lawyers say, were Sir J. Whittaker Ellis, Bart., and Lieutenant-Colonel Pilkington, M.P., whilst gathered round the board there were, amongst others, Messrs. H. J. Veitch, N. N. Sherwood, J. H. Veitch, H. Morgan Veitch, Geo. Monro, H. B. May, Jas. H. Laing, J. O'Brien, J. Asbee, P. Crowley, P. Kay, J. Lee, H. J. Cutbush, W. A. Binney, Jno. Laing, jun., A. Monro, W. Gleeson, H. James, J. Hudson, J. Willard, P. R. Barr, W. Russell, J. E. Jefferies, J. Douglas, W. Y. Baker, A. Outram, T. W. Oakshott, R. Lowe, and J. Woodroffe. The Very Reverend the Dean of Rochester was a notable absentee, but in a letter read by Mr. Ingram, the Secretary, he expressed his regret at not being able to attend, and accompanied this by a substantial donation.

Dinner was announced for seven o'clock, and was served with the customary punctuality and dispatch of the Métropole. After the long succession of comestibles had been discussed the Chairman rose, as a loyal subject, to propose the toast, which, to use his own words, "comes most readily to the lips of every Englishman."—"Her Majesty the Queen." The toast of "The Prince and Princess of Wales and the Rest of the Reigning House" followed.

These constitutional preliminaries disposed of, the noble earl proceeded, with much grace of speech and aptness of expression, to lay the claims of the Institution before the meeting. He recounted, in humorous fashion, his own two maiden efforts as a gardener, and then went on to say that, although he could not claim to have any deep practical knowledge of the "Art that does mend Nature," he yielded to none in sympathy for gardeners and gardening. To those of the "craft" who had been unfortunate in the battle of life, the "Benevolent" came as a ministering angel, making life easier for them, and in some cases prolonging it. He reminded his audience that 174 men and women were in receipt of pensions, and of these four were over ninety and many over eighty years of age. It seemed, then, that gardening was a remarkably healthy avocation; but it was more than probable that the longevity of pensioners was in great measure due to the relief from "anxiety as to the future sustenance that drives more men to their doom than physical illness." The Institution disbursed upwards of £3000 annually in pensions, and there was a sum of between £600 and £700 to find for working expenses. To do all this there was only a regular income of £900 from invested capital, and the rest had to be made up by annual subscriptions and donations. His lordship pointed out in passing that as long as money could be had as cheaply as at present, it was a question whether subscriptions were not more desirable than donations. At any rate, those who gave money to the cause could rest assured that it would find its way to deserving cases, and he asked all present to remember that many a "mickle makes muckle." Passing from the special claims of the Institution, the noble earl went on to press home the claims of horticulture as a whole, and spoke of the beneficent influence of the parks and open spaces that were as lungs to the crowded city, and of the rest and peace of the country where overtaxed minds might find that release from care they so much needed, and he was not less eloquent in his unstinted praise of the charms of the suburban garden made beautiful by the exercise of one of the purest and noblest tastes which the Almighty had given to man. "And now," said he, in conclusion, "will you hold back your hand from those who have given their lives in such a cause? Will you not rather help the Institution to go on and prosper in the good work it has undertaken, and to which its existence is devoted? Will you not let its wants, its claims, its necessities, appeal to hearts which have been generous in the past, and will, I trust, be not less liberal again?"

This toast of "Prosperity to the Institution" was coupled with the name of Mr. Harry J. Veitch, than whom no society has had a more zealous treasurer. Mr. Veitch, in replying, gave some details of the workings of the Institution, and the work done during the past year, in which the establishment of a branch at Reading stood out prominently. It was proposed to inaugurate a branch at Edinburgh, but he who had done the most to further the cause in the northern capital, Mr. Malcolm Dunn, had lately passed to his rest. During the year the Institution had also lost one of its founders, Mr. John Lee, who died at the ripe age of ninety-three honoured and beloved by all who knew him. The toast of "Horticulture, and all its Branches," was given by Sir J. Whittaker Ellis, who also waxed eloquent upon the theme of the humanising influence of the gentle art. Mr. W. Atkinson (Messrs. Fisher, Son, & Sibbey), responded at some length.

Mr. W. A. Binney proposed "Our Country Friends," and in the course of an appropriate speech let fall the suggestion that the annual banquet should occasionally take place in one of the large provincial towns. He thought this would tend to promote the spreading of interest in the Institution and its doings. Mr. R. Piper, with whose name the toast was coupled, replied.

A whisper had already circulated that subscriptions were coming in well, but there was a gasp of astonishment and delight when Mr. Ingram announced, at the Chairman's invitation, the sum collected to be £2500. The Chairman headed the list with 200 guineas, thus proving his interest

by something stronger than mere words, although these were practical and convincing enough.

Mr. Sherwood performed the agreeable task of toasting the Chairman, and expressing to him the thanks of all the friends of the "Benevolent," not only for his presence there that evening, but also for his very practical support and patronage. Lord Derby replied in his happiest vein.

The musical arrangements, with which the toast list was pleasantly varied, were under the management of Mr. Herbert Schartau, and the tables were prettily decorated with flowers and plants contributed by friends. Altogether the Diamond Jubilee dinner was a most successful gathering.

LONDON COUNTY COUNCIL HORTICULTURE.

It has been recently mentioned that the London County Council is about to send one or more students, in addition to others already there, to the Botanic Gardens, Regent's Park, to learn gardening. How far it may be a fit place to learn horticulture of a practical kind I do not know; but a few days since, and on the occasion of the annual inspection of the boys, I visited the large Industrial Schools of the Council at Feltham, Middlesex, and seeing that there are in that great institution some 750 boys, many of whom are stout and sturdy, well fed and clothed, I wondered that as there is a very extensive area of ground available for garden purposes, that gardening as a specific subject is not there taught. There is of the boys an agricultural section. These lads labour in the fields, and do such garden work as is presented; but then it is of a somewhat rough nature, and by no means equal to what may be seen on any fairly good group of allotments.

Really the school would make for the purposes of furnishing practical training in gardening one of the finest institutions conceivable, and, of course, for agricultural purposes also it is admirably fitted. Being near the metropolis, and in the midst of a great market garden district, it would be specially fitting were the boys trained in the gardening vocation, because they could thus be made later in life so helpful in providing fruit and vegetable culture for market sale.

But the garden department at the school is now of the crudest, and can hardly be described as gardening at all. There is little glass, and no fruit culture: indeed, such gardening as is in evidence is less useful or good than was the gardening seen there twenty years since. It is on a level with field culture, and that is all. Unhappily the boys sent to the school are of a low type, although there can be no doubt under strict discipline and control exceedingly teachable. But those instructed in outdoor vocations are, when they leave, either drafted off to the Colonies or to Wales. Why they should not be trained to become first rate workers in gardens, especially in those devoted to market purposes, it is hard to understand. Of course, the school under such conditions exists as a sort of necessary evil, because of our very depraved and distressing social conditions.

Could, however, this great institution be devoted to better things what a splendid school of gardening of the most useful and practical nature it might be, and how much better would the London County Council's money be expended than it now is, because under wise and liberal direction the schools might be thus made to be the finest training school of gardening for boys in the world. What a pity it is that some such ideas as these cannot be made to enter the minds of the Council now. What an opportunity might be made to render to the nation at large valuable service. Some five or six years of training in such an institution, with all the best appliances in gardening furnished, should turn lads out as most valuable workers, and thus render high service to horticulture as a national vocation.—A. DEAN.

[Unless great alterations have been made in the Regent's Park gardens of late years, it is difficult to see how the routine operations in useful and profitable gardening can be efficiently taught. The great want of the times is the provision, not of professional gardeners capable of taking charge of the gardens of the wealthy, but trained workers or expert labourers for meeting the requirements of the ever-growing industry of commercial gardening, in which competent workers are at times so scarce. If the London County Council can transform the raw material at its command into profitable wage earners in the direction indicated, infinitely more good will be done than by teaching botany in Battersea and other parks, or so-called advanced gardening anywhere in the metropolitan district.]

PEAT MOSS LITTER AND GARDEN CROPS.

I AM puzzled with my garden crops, including Peas, Beans, Cauli-flowers, Spinach, and, indeed, all vegetables. Five years ago this garden would grow anything thoroughly well, when good stable and cow manure was used. Since that time, however, I have used nothing but peat moss litter from the stables, and I find the larger part of my crops are a failure. They become yellow, and the foliage is small. I planted a number of tuberous-rooted Begonias in flower beds, all of which were healthy when put out, but they are going off the same as the vegetables. These beds were also manured with peat moss litter. I have seen things going wrong for two years, and last year I ascribed it to the drought. This season I watered all the vegetables and flowers during the short spell of dry weather, but the results are no better.

I shall be glad to know if any readers of the *Journal of Horticulture* have had experience with this peat litter, and the result of their operations. I am of the opinion it has poisoned the ground, and nothing will thrive until I put good manure on again, but should like confirmation on this point, and suggestions as to the best steps to take.—W. M.



RECENT WEATHER IN LONDON.—The storms of last week brought welcome rains, which must have done good to vegetation. There was, too, some rain on Sunday evening and Monday; but on Tuesday, though dull, there were only one or two light showers. Wednesday opened bright, and very warm.

ROYAL HORTICULTURAL SOCIETY—HYBRID CONFERENCE, CHISWICK, JULY 11TH.—The ordinary Committees will meet at Chiswick at twelve punctually, and plants, &c., for certificate will be placed before them as at the usual meeting in the Drill Hall; but with the exception of plants, &c., for certificate, and hybrids and their parents, no other plants, &c., may be exhibited on this day.

AN AL FRESCO REPRESENTATION OF SHAKESPEARE'S PLAYS IN DUBLIN.—On the 17th, 18th, and 19th of July, a rather unique performance will be submitted for criticism in the shape of an fresco representation of Shakespeare's plays, an unusual feature in Dublin. Lord Iveagh has kindly lent his magnificent gardens in Stephen's Green to the Committee of "The Police-aided Children's Clothing Society," who have made arrangements with Mr. F. R. Benson and his talented company, who intend to produce "Twelfth Night" and "As You Like It." The surroundings are simply perfection, whilst the impersonation of Rosalind by Mrs. F. R. Benson, one of her most characteristic creations, will give a fillip to this novel attraction.—A. O'NEILL.

LATE BROCCOLI.—Replying to "A. D." (page 530, last vol.) I may say that Dickson's June King was put in commerce two or three years ago. It is quite distinct from and later than Methven's June and Ledsham's Late White, both of which I have grown many years. I mentioned in a former note that June King is distinct from and later than the other varieties named by "A. D." Perhaps large pots are not so common in South Yorkshire as they are in the neighbourhood of London; a 10-inch head would be little more of a "pot-burster" than the 9-inch head mentioned by "A. D." in the *Journal of Horticulture* of June 15th. It sometimes happens where large quantities of Broccoli (and other vegetables too) are grown for private establishments that all cannot be consumed while of small or medium size, consequently some are left until they attain to a "pot-bursting" size. These are found to be an advantage (if of good quality, as those in question were) over small ones where a large number of servants has to be provided for. The Royal Horticultural Society would do good service in making a trial of late Broccoli at Chiswick and publishing the results.—SOUTH YORKS.

STRAWBERRIES.—Although Strawberries have been apparently plentiful in the market, yet it is generally held that the season will be a brief one, as the crop is only moderate in quantity. Looking over the beds in the R.H.S. gardens at Chiswick I could but note the paucity of fruit, although the plants were looking so well and all had been admirably mulched. The finest of all was the Countess, undoubtedly one of the best flavoured of varieties, well known in commerce, and not a large-leaved variety either. Many others had very few fruits, especially the yearling plants, yet they were very strong. Possibly, because so comparatively fruitless they have developed all the stronger leaf growth. Market growers, I find, ascribe the cause of this partial barrenness to the long drought of last summer and autumn, which was so deterrent in fruit crown production. Plants layered into pots and kept well watered do not feel drought effects in this way, but those in the open ground do, and they seem, so far, to have suffered, that whilst bloom was thin this spring, it also seemed greatly to lack stamina. No wonder, then, with such a spell of cold, and especially of late, sharp frosts, in the spring, a finishing touch was given to so much of this bloom that thousands of plants have not had a fruit on them. What a boon would it have been to Strawberry growers could they have given their breadths, small or large, two or three floodings of town sewage, although that would not have enabled the bloom to escape harm from the spring frosts. It is one of the features of Strawberry growing that crop failures are relatively few. It is easy to advise planting only in moist alluvial bottoms to secure good root action in dry weather, but no place forms a greater frost trap in the spring. We want to be able to irrigate our Strawberries occasionally in the autumn, and that we cannot do.—OBSERVER.

BAND AT BLACKROCK.—One of the pleasing features that has sprung up in recent years—namely, military bands playing in our Dublin city and suburban parks, has become quite popular, and should, in the natural course of events, give a leaning towards love of the beauties of Nature in the domain of horticulture. On a recent Saturday evening the band of the Rifle Brigade discoursed pleasingly from four to six o'clock, and any passer-by could easily notice by the well-filled electric cars and cyclists, both male and female, its fascination.—A. O'N.

CALCEOLARIAS AT ANNINGSLEY PARK.—A particularly fine strain of Calceolarias was noted recently at Anningsley Park, near Chertsey, the colouring being rich and varied, while the individual blooms were exceptionally large. No special shade predominated, but selfs and spotted flowers were found in all the many hues for which this greenhouse plant is esteemed. The excellent condition of plants contributed in no small measure to the fine size of the blossoms, but most cultivators know that in the case of florists' flowers much also depends upon the stock of seeds. In this case it is the result of some years of careful crossing by the gardener, Mr. Tomlin, whose culture differs in one item from that mostly followed—namely, small pots are used. Quite handsome specimens were growing in those of 7-inch diameter.—H. S.

FERTILISATION BY INSECTS.—We were privileged a week ago to listen to a lecture on the above subject in the large vinery at Chiswick, by the Rev. Professor Henslow. In addition to the students in the gardens a considerable number of persons who have attended classes on horticulture at Wimbledon were present. For an hour the attention of the audience was riveted, so to say, by the masterly discourse, in which much was made plain that was hitherto obscure to the majority, and practical lessons were readily deducible from the scientific facts so lucidly portrayed. That scientific knowledge should form the basis of practical gardening is being more and more recognised, and Professor Henslow, by his untiring efforts and gift of attractive and convincing exposition, is doing excellent work in the direction indicated. The lecture was highly appreciated, and a vote of thanks for it conveyed amidst ringing cheers. The Professor lectures again in the great vinery on the evening of the 19th inst.

HIGH-CLASS VEGETABLES.—If anyone had any doubts as to the exhibition attractions furnished by vegetables, they would have had them entirely removed on seeing the splendid collection of fifty-three dishes which Mr. Beckett, of Elstree, set up at the Drill Hall on June 13th in honour of the Sherwood cup. Whilst the individual samples and the entire collection constituted a triumph in culture, the whole also made a superb picture, for if there be art in effectively grouping vegetables, there are the elements of art, and of true art, seen in their forms and colours. It is true we see habitually plenty of fine products at flower shows in much lesser quantities, and beautifully arranged, but Mr. Beckett's collection was so large, yet in every case so good, that for the time of year it has never been equalled. It seems a pity that at least one field-day cannot be set apart at the Drill Hall for vegetables some time during the year. A score of various sized collections by our leading growers would make a fine display.—A. D.

ECHINUM WILDPRET.—Of new plants recently flowered at Kew this is certainly one of the best from a garden point of view. It was received from Mr. Wildpret in the first place as a variety of *E. candicans*, but on flowering it was found to be quite distinct from that species, and was named after the donor. Although only recently named, it flowered for the first time two years ago, the plant being very small and not fully developed; seeds were, however, saved, and resulted in a stock of some thirty or more plants now flowering in the temperate house. It is a biennial species, taking about eighteen months to flower from the time the seed is sown. When not in flower it is a striking-looking plant, the long narrow leaves being covered with whitish hairs, and produced in a dense rosette. When about sixteen months old the stem begins to elongate, continuing to grow until it is 2 or 2½ feet high. On the upper 9 inches of this, the flowers—which are light red, and three-quarters of an inch across—are produced in a dense cylindrical head. Seeds are produced freely, which if sown in light sandy soil quickly germinate. The young plants should be kept growing, without a check, until mature. A compost of loam, leaf mould, and sand, with a little rotten manure, is suitable for them. For the last potting 6-inch pots should be used. The plants should be grown cool and kept on the dry side during winter, feeding liberally when the flower stems begin to push. They should on no account be fumigated, the foliage being damaged very quickly. It is a native of Teneriffe, and is to be figured shortly in the "Botanical Magazine."—W. D.

METEOROLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1899.		deg.	deg.	deg.	deg.	ina.	deg.	deg.	deg.	deg.
June and July.										
Sunday ..25	N.N.W.	59.3	54.5	68.9	48.8	—	61.3	60.1	56.9	38.5
Monday ..26	W.N.W.	60.6	64.9	79.9	58.9	—	62.2	59.9	56.9	53.3
Tuesday 27	S.E.	67.5	62.6	71.1	61.8	—	64.9	60.5	56.9	53.5
Wednesday 28	S.S.E.	64.3	57.8	70.1	53.6	0.42	62.2	60.8	57.1	47.1
Thursday 29	W.N.W.	65.0	59.9	72.6	57.6	—	63.3	60.7	57.2	55.4
Friday ..30	W.S.W.	63.2	55.5	69.5	47.0	0.60	63.9	61.1	57.4	38.1
Saturday 1	W.S.W.	59.9	57.1	61.2	53.9	0.46	63.3	61.4	57.5	53.3
MEANS ..		64.1	58.9	71.3	54.5	Total 1.88	63.0	60.6	57.1	48.5

The weather during the first half of the week was very warm and dry, the latter being remarkable for rough winds and frequent storms, with heavy thunderstorms on the 28th and 30th ult., the lightning on both dates being very vivid.

— THE STORM ON WEDNESDAY LAST.—Violent storms of rain and hail, accompanied by heavy thunder, were pretty general all over the country on Wednesday 28th ult. The low-lying districts of Belfast were flooded, while in the Isle of Man a carriage and two horses were overturned and several sheep were killed. A great storm passed over Aldershot, causing considerable damage by lightning and flood. Roadways in places were washed up to the extent of 2 or 3 feet, and undermined. The Wellington lines were under water and impassable. It was very severe in various parts of the metropolis and the rain in places was torrential. On Saturday a second storm of less severity passed over London and other districts.

— JUNE WEATHER AT BELVOIR CASTLE, GRANTHAM.—The wind was in a northerly direction twenty-one days. The total rainfall was 1.04 inch; this fell on nine days, and is 1.08 inch below the average of the month. The greatest daily fall was 0.35 inch on the 19th. Barometer, corrected and reduced: highest reading, 30.478 inches on the 8th, at 9 A.M.; lowest reading, 29.377 inches on the 20th, at 9 A.M. Thermometers: highest in the shade, 80° on the 5th, lowest 23° on the 15th. Mean of daily maxima, 68.33°; mean of daily minima, 48°. Mean temperature of the month, 58.16°; lowest on the grass, 30° on the 15th, highest in the sun 134° on the 26th. Mean temperature of the earth 56.68°. Total sunshine, 224 hours 55 minutes. There was one sunless day.—W. H. DIVERS.

— SUSSEX WEATHER.—The total rainfall at Stonehurst, Ardingly, for the past month was 2.90 inches, being 1.10 inch above the average. The heaviest fall was 1.88 inch on the 28th. The whole of this amount fell in little more than an hour during a severe thunderstorm, and is the heaviest fall in any twenty-four hours since the 8th October, 1890, when 2.25 inches was recorded. Rain fell on six days. The maximum temperature was 87° on the 4th, 5th, and 26th. The minimum 42° on the 14th. Mean maximum 76.03°, mean minimum 51.10°, mean temperature 63.56°, which is 3.36° above the average. We have now got what we very much needed—a good soaking rain (3.22 inches on four days, 0.86 inch having fallen on the 1st), which will greatly benefit everything, especially fruit trees, many of which are bearing heavy crops.—R. I.

— MENTMORE, BUCKS.—The storm which raged over a considerable portion of this district on Wednesday evening (June 28th) did not do much damage to our fruit crops. The trees in the park and grounds had a few branches broken off, but altogether we escaped very lightly. The mansion was struck by lightning during the storm. The structure has six towers, and it was one of the south towers that was struck, and a quantity of the stonework smashed up and scattered over the south terrace. Fortunately there was no damage done to the interior, and no one was injured. Had the lightning taken any other direction much serious damage would have been done. Sometimes we find the lightning cut the top off a tree and leave the other part sound, at other times it goes right down and rends the tree from top to root, and the tree dies. The lightning we had on Wednesday seemed to be of the kind that takes the tops off trees.—J. SMITH

— ONIONS AND MAGGOTS.—It was scarcely to be expected that the remarks under this heading on page 487, last vol., would pass unchallenged. Mr. Richards, on page 531, says he thinks I have let my pen run away with me. Nothing of the kind; exceptional cases need special treatment, and I have no wish to say anything against his methods. I do think, however, that "Onionism" is in danger of becoming far more of a fashion than a necessity in many instances. I have always found that a light spraying with a weak solution of petroleum will keep sparrows from doing much damage to crops. Of course this preventive needs more than one application to be of real service. I can assure Mr. Richards that I quite appreciate his paragraph, and also the general fitness of things, in that, owing to the evil attacks of one of the most pugnacious creatures in existence, he must needs remain a "boxer."—J. SHALFORD.

— ROYAL HORTICULTURAL SOCIETY.—SCIENTIFIC COMMITTEE, JUNE 27TH.—Present: Dr. M. T. Masters (in the chair); Dr. Müller, Rev. W. Wilks, Rev. G. Henslow, Hon. Sec.; visitor, Mr. H. J. Webber (Agricultural Department, New York). Cattleya, monstrous.—Dr. Masters observed that the specimen brought to the last meeting was characterised by having a sepal in a petaloid condition; but the same feature occurred in three flowers on the spike. *Catsetum rostratum*, malformed.—A spray bearing two flowers, with the lateral petals bearing characters of the lip, was sent by Sir Trevor Lawrence. *Carnations-Diseased*.—Specimens were sent by Mrs. E. Mackay, which proved to be attacked both by bacteria and *Puccinia dianthi*. Mr. Webber observed that the disease known as bacteriosis is now generally regarded in America as a result, and not a cause; that it follows upon some lesion to the foliage, as by punctures, &c., by insects. The same observation might apply to the presence of the *Puccinia*. No remedy could be suggested, it is best to destroy the plants entirely.

— ISLE OF WIGHT.—The monthly meeting of the I.W. Horticultural Improvement Association was held at Newport on Saturday last. Dr. J. Groves, B.A., J.P., presided. Mr. A. Coffin, gardener, Lisle Court, Wootton, read a practical paper on the "Cultivation of Ferns," dealing with the propagation, potting, watering, feeding, and shading. An interesting and profitable discussion followed, taken part in by the Chairman, and Messrs. Sheath, Newnham, Heaton, and others. A vote of thanks was accorded the essayist on the proposition of the Chairman. The exhibits staged consisted of a well grown and clean *Cattleya Mendeli* from Mr. J. Bryant, Gothland Lodge, Sandown; a large collection of seedling *Begonias* from Mr. W. W. Sheath, Macrocampa, Ventnor; a collection of Sweet Peas from Mr. J. J. Linington, Victoria Nursery, Newport; and a collection of culinary and Sweet Peas from Mr. H. Sickelmore, St. Winifred's, Totland Bay. Each of the exhibits was considered by the adjudicators worthy of the Association's certificate for cultural merit. Several new members were elected at the close of a very successful meeting.

— EMIGRANTS' INFORMATION.—The July circulars of the Emigrants' Information Office and the annual editions of the penny handbooks show the present prospects of emigration. The notice boards are now exhibited, and the circulars may be obtained free of charge, at more than 400 public libraries and institutions throughout the country. This is the best season for work in Canada, and those intending to emigrate this year should start at once. There is a good demand for experienced farm hands, except in British Columbia, and for female servants. In New South Wales the severe drought has to some extent passed away, but its effects will be felt for some time. There is practically no demand for miners, ordinary farm or station hands, or mechanics, but in most districts there is a good demand for female servants. Really skilled dairymen, however, and thoroughly capable farm labourers would probably have little difficulty in obtaining employment in many parts of the colony. There is a good opening for farmers with a little money. In Victoria and South Australia there is practically no demand for labour. In Queensland there is a general demand throughout the colony for ploughmen and other farm labourers. As regards Western Australia, it should be remembered that the population of the colony, though it has rapidly increased, is still small, and that therefore the demand for all kinds of labour is necessarily limited. The chief demand is for miners, farm labourers, and for female domestic servants. In Tasmania the supply of farm labourers is generally sufficient. The last reports show that there was plenty of work in New Zealand, but there is no demand for more hands. In Cape Colony there is an occasional demand for a few skilled mechanics only; recruiting for the Cape Mounted Riflemen has ceased both in the colony and in this country. Persons are warned against going to Beira (Portuguese East Africa) in search of work.



ROSE SHOW FIXTURES IN 1899.

- JULY 7th (Friday).—Hereford.
 " 8th (Saturday).—Manchester.
 " 11th (Tuesday).—Reading and Wolverhampton.†
 " 13th (Thursday).—Bedale, Brentwood, Eltham, Helensburgh,
 Norwich, and Woodbridge.
 " 14th (Friday).—Ulverston.
 " 15th (Saturday).—New Brighton.
 " 19th (Wednesday).—Cardiff, Newcastle-on-Tyne.†
 " 20th (Thursday).—Salterhebble and Sidcup.
 " 22nd (Saturday).—Newton Mearns.
 " 25th (Tuesday).—Tibshelf.
 AUG. 3rd (Thursday).—Liverpool †
 * Shows lasting two days. † Shows lasting three days.
 ‡ Show lasting four days.

—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

RUB IT IN.

A GOOD many amateur rosarians will be about this time beginning to be troubled with the first appearance of mildew on their plants. Sulphur is the usual remedy, and is generally, I take it, the active principle in advertised preparations. It is to be "dusted on," "blown on," or "sprayed on" to the affected parts, but it does not always seem so effectual as it should be.

A certain old farmer wishing to convey, in what he thought was picturesque language, the idea that he had patiently endured injury, but resented added insult on the same subject, said, "I ha' put up wⁱ being spat on, but I can't abide its being rubbed in."

Our enemy the mildew is of the same opinion. It can put up with the sulphur being dusted or sprayed on, for a shower or a breeze will soon remove it, and the under parts of the leaves, where it is strongest, will have had little of the application; but it "can't abide its being rubbed in." There is as much difference as there would be between sprinkling poison on the human skin and rubbing it into an open wound. For mildew is an organism consisting in its early stage of the mycelium threads, to which sulphur is poison. Rubbing breaks these threads, and not only causes the sulphur to adhere, but rubs it into the broken threads, or open sores, so to speak, of the mildew.

Of course this remedy is of use only for the small amateur, or where the first appearance has been detected in time among a lot of otherwise untouched plants. I found this afternoon a couple of plants infected, and after rubbing it in well all over them, I went across the rows among other plants, and found a curl or a spot just here or there, and firmly believe that I have for the time repulsed the enemy, though of course there may be a fresh attack very soon.

I have the sulphur in an open vessel in one hand, and, taking a pinch between finger and thumb with the other, just rub every affected leaf with it, the thumb being on one side of the leaf and the finger on the other. In one case which I thus treated lately, the leaves which before the operation were folded together, wrinkled, and white, and looked wretched, were the next morning open again and green, and brown scars only remained where the mildew had been. White spots on the wood, or even on the buds, should not be overlooked.
 —W. R. RAILLEM.

MAIDSTONE SHOW.

THE annual show in connection with the Maidstone Rose Club took place at the Church Institute on the 28th ult., when a good display of blooms was made, but the attendance of visitors was small. Colonel Pitt, of Hayle Place, was a large exhibitor and carried off the Mayor's silver cup with a fine collection of twenty-four blooms. He also secured the National Rose Society's bronze medal for the best bloom in the show with a Mrs. John Laing. Mr. R. E. West, Reigate, was a strong exhibitor, and took several prizes. Messrs. G. Bunyard and Co. made a fine display of Roses, plants, Palms and hothouse fruits in the hall.

SUNNINGDALE PARK.

To those horticulturists whose journeyings do not take them into Berkshire, not even to Royal Ascot in the "leafy month," and whose knowledge of the estates that are scattered throughout its many acres is derived from the pages of the several horticultural journals, the name of Sunningdale Park will conjure up visions of Orchids beautiful and rare. And they have some justification for this, as it is seldom that nowadays Mr. F. J. Thorne, who has charge of Major Joicey's gardens, exhibits anything but Orchids, and those only when there is something of exceptional merit in flower. Thus it is that on these occasions the observations of the reporters are confined to the plants shown, and nothing is said beyond. Erstwhile groups of Chrysanthemums and miscellaneous plants found their way from Sunningdale Park and returned not until the magic "first prize" had been attached to the cards. But those days are past, and the plants that are grown go not, unhappily for visitors, to the exhibition; they remain for the further adornment of an already charming home. They are still of the same excellence, but the exigencies of the supply of a large establishment demand their retention, and even then the resources of the gardener and his staff are often taxed to the last proverbial straw.

It is the intention at this moment, then, to tell not of the Orchids alone, but of other points of attraction in this compact yet varied domain. Fortunate, indeed, is it for us Londoners that there are within their ring fences many places that take us from the smoke and grime for a day, and in giving us fresh air add to our lives what the sulphurous metropolis might take off, and provide at the same time health-giving food for the mind. At Sunningdale there is much which gladdens the eye as the pleasure gardens are traversed, the splendid trees noted, and stock, if no more, is taken of the fruits within doors and the crops in the vegetable garden. There is material for the Orchid enthusiast to feast upon, the fruitarian and vegetarian have their appetites whetted and their palates tickled; while the hardy plantsman finds in the many shrubbery borders, and in the rocks that margin the lake, many of those treasures in which his soul delights. For the nonce the several specialists must be rolled into one generalist, and each of the phases of gardening be dealt with, if in only a perfunctory manner.

It is about six years ago since the writer went first to Sunningdale, and was then much interested in the grounds and the glass structures, but in the interim the face of Nature has been changed, and one would, but for some salient features that must never be removed, scarcely recognise the place. The pleasure grounds have been altered in a most skilful manner, and the result is that though their dimensions remain, practically the same the extent is apparently much greater. It is in cases such as these that the skill of the landscape gardener is evidenced, as he seizes salient points, emphasises them, and covers defects in some manner that must be governed by the immediate surroundings. Perhaps the most marked improvement has been effected in the neighbourhood of the lake, which was originally of somewhat formal design, and of such shape that the whole of the water could be seen in one *coup d'œil* from several different points.

The gardener in chief was, of course, anxious that this should be improved upon, and being a very considerable piece of work it was placed in the hands of Pulham & Son, whose skill in such matters as these is world renowned. The water has now been margined with rock, and as the banks have been skilfully contracted here and expanded there, the appearance of a great deal more water has been secured. Jutting rocks have formed a congenial resting place for hardy plants, which in a few years will produce a very handsome effect. At the head of the lake the rocks have been thrown up to form cascades, with divisional resting pools, and already, though scarcely completed, looks charming. The topmost rocks are almost lost in the immense bank of Rhododendrons, this favouring the impression that there is more water beyond. From the carriage drive, which extends for nearly a mile, mostly within banks of Rhododendrons, one best grasps the importance of the several changes that have been made, as they have added variety, depth, and charm to an already varied scene. The designers are to be congratulated on the excellence of their work.

It is perhaps unfortunate that neither of the photographs sent for reproduction by Mr. H. E. Ree, Sunninghill, depicts the full area of the water, and the only one that is sufficiently sharp for use is seen in fig. 3. The water in the foreground of the picture serves one purpose and that is to throw into bold relief the splendid trees with which the greensward is studded. An idea, too, of the lake borders is given by the photograph. The Rhododendron bank mentioned in the preceding paragraph has on its first terrace Rose arches and beds, and on its summit the home of Major and Mrs. Joicey. The mansion (fig. 4) is beautifully situated, and commands some charming glimpses of the surrounding country. As may be seen, it is a formal structure, that makes up in solidity and comfort the architectural beauties it certainly lacks. In the second picture the head of the lake is at the left hand, there being, besides the easily recognisable trees, Rhododendrons, Azaleas, and the Roses beyond. The most attractive spot of all, however, when this visit was paid, was a mass of *Lithospermum prostratum*, whose blue flowers made a lovely picture.

As Rhododendrons have been mentioned several times already, readers will have grasped the fact that they are favourites at Sunningdale, and

the collection is so varied, and has been so carefully selected, that they produce a very brilliant effect that is always admired. As a matter of fact, flowering shrubs and trees are numerous, and it would not be possible to name all of them. They have been employed freely in some positions and sparingly in others, the planting having been wholly governed by the immediate surroundings. The Japanese Maples, too, have been employed in a somewhat similar manner, and with telling effect. Many of the trees are splendid specimens, but some of the best are buried in belts, where it is scarcely possible for their full beauty to be seen. So far as possible Mr. Thorne is opening out the individuals to give room for proper expansion, as well as to allow their proportions to be recognized; but an undertaking such as this is no light one, and must therefore be carried out with judicious care, so that in looking to future improvements the present effect may not be seriously marred.

The lawn lies on the right of fig. 4, and extends from the mansion down to the gardens. It is a beautiful expanse of turf flanked by some

culturist, so delights to have. Then, within doors, there is further wealth of blossom amongst the Hydrangeas in 48-pots, with heads about 18 inches across; the many-tailed *Acalypha hispida* (Sanderi), the bright and fragrant Carnation *Mrs. Joicey*, the chaste white Lilies, the stately Arums, the useful Ixoras, the feathery Celosias, besides scores of others that come to the zenith of their beauty in the garden, do good service in the mansion, whence the major portion passes direct to the rubbish heap. It is the same with the various foliage plants. They are quickly grown, and are then discarded, as Mr. Thorne does not require large specimens, but numbers of small stock, which the convenience at command would render it exceedingly difficult to carry over from year to year. In all the Crotons, Coleuses, and Caladiums, *Acalypha Macfeeana*, and others, the intensity of colouration secured is quite remarkable.

But what of the Orchids? someone may ask. Well, they are grand, and to the *Miltonia vexillaria* in variety must be given the place of honour for richness of display when this visit was paid. One section of a



H. E. Ree, Photographer.

Sunningdale Villa.

FIG. 3.—WATER AND WOOD AT SUNNINGDALE PARK.

splendid trees. Near the mansion on the right what was formerly a bank of Heather has been re-made and planted with beds of choice *Rhododendrons*, *Azaleas*, *Kalmias*, and other plants, and the improvement is very marked, though its full beauty will not be seen until the stock has got a thorough hold of the soil. The position is very dry, as the bank slopes abruptly towards the south, but assiduous attention is compelling the plants to make satisfactory progress. A few beds are occupied with the orthodox bedding plants, but this phase of gardening is not in very high favour, and is therefore not largely adopted. The large vases on the terrace of the mansion have richly coloured *Zonal Pelargoniums* placed in them, and they, showing well from a distance, are very effective, but large specimens have to be employed so as to give an immediate return in the form of flowers.

Still continuing among the flowers we must now refer to the splendid herbaceous borders, the broad belts of Spanish *Iris*, and the long lengths of *Poet's Narcissi*, all of which play a handsome part in providing the enormous number of flowers which *Mrs. Joicey*, who is an ardent flori-

large span-roofed structure was almost filled with them, and their clean, healthy growths and superb spikes of flowers proved how thoroughly their requirements were understood. Of this particular Orchid I have never seen a better show, and *Major and Mrs. Joicey* may well be proud of the collection. Apart from these, a plant of *Luddemanniana Leemannii* in a 10-inch basket was carrying six spikes, on one of which there were over half a hundred flowers, attracted much attention. It found its way to the Temple Show, and received a cultural commendation from a critical committee of experts. Then, too, there were *Dendrobium formosum*, *giganteum*, and *Johnsoni*; *Anguloas Clowesi*, *uniflora Turneri*, and *Ruckeri sanguinea*; *Cypripedium*, *Odontoglossum*, *Masdevallia*, *Cochlidia Noezliana*, and *Lælia purpurata*, with others in flower, not to mention scores, or rather hundreds, that have passed away for the season, or those that have not yet contributed to the year's display.

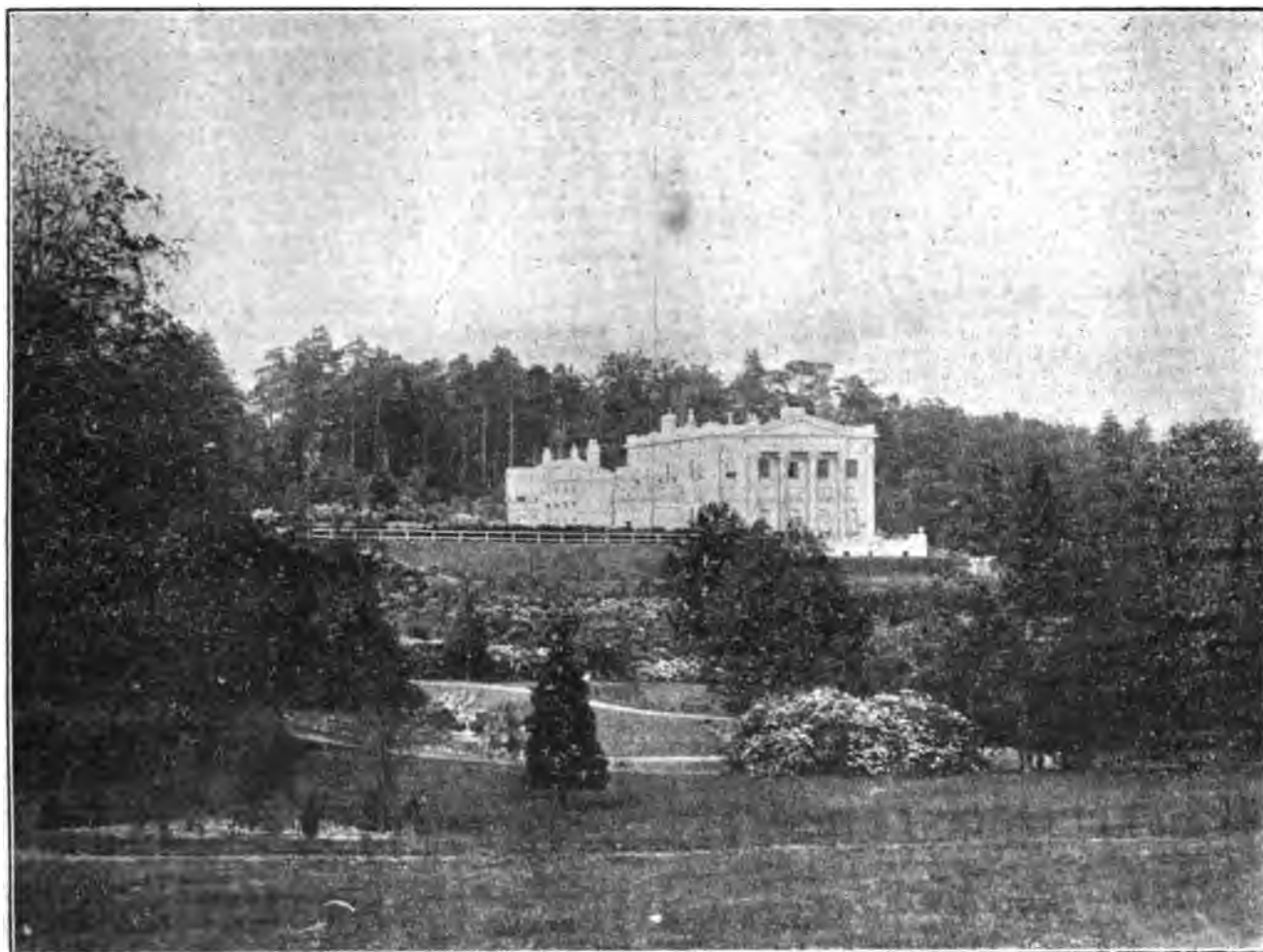
The excellence that prevails over the pleasure grounds and floral portions of the estate is equalled in the departments both outdoors and under glass that are devoted to the production of fruits and vegetables.

All crops in season are there in the best condition that can be attained to, the Grapes being particularly conspicuous for colour and size in those that were being gathered, and in the abundant promise of the later Vines. Peaches and Nectarines, too, are good, but the first earlies were not up to the mark, owing to the prolonged intense heat of last season, the effects of which were felt by many gardeners as well as Mr. Thorne. All outdoor fruits are good, especially Gooseberries and Currants, and Peaches and Cherries on the walls. Every foot of space is occupied in the vegetable garden with valuable crops, and it is speaking testimony to the correctness of the methods of procedure adopted to see all ground filled with profitable crops, and the number of weeds so few. In thus keeping down weeds the grower insures that all the food in the soil will go to the crops for which it is intended, and not to useless robbers. Sunningdale Park is thoroughly well maintained, and must be a constant source of pleasure and interest to its owners, and the same time as it is a credit to the gardener in chief and his assistants.—H. J. WRIGHT.

best plants. Mr. Osman had the best Ferns. Caladiums, Gloxinias, and Geraniums were well represented.

Roses were not extensively staged; the quality was on the whole fair. In the open class for thirty-six distinct, in that for eighteen triplets, twelve Teas, six one variety dark and the same any light variety, Messrs. D. Prior & Son, Colchester, were unapproachable. The blooms were not large, but clean and fresh. R. E. West, Esq., Reigate, was a creditable second in the former class; Mr. Neville, gardener to F. W. Flight, Esq., Twyford, Winchester, was second for twelve Teas. There was brisk competition in the classes devoted to gentlemen's gardeners and amateurs. Mr. Neville won for eighteen and twelve varieties with good blooms. Dr. Seaton, Bitterne, following. Captain Ramsay, Fareham, won the premier award in the class for twelve in not less than eight varieties.

Mr. B. Ladhams had the best bouquets, and also won premier award for twelve varieties of herbaceous flowers with a charming stand. Mrs. C. S. Fudge secured first place for a basket of Roses with a pretty



H. E. Rice, Photographer.

Sunninghill Village.

FIG. 4.—SUNNINGDALE PARK.

SHOWS.

SOUTHAMPTON.—JUNE 27TH AND 28TH.

THE annual summer or Rose Show was held on the Pier, and was, from a horticultural point of view, a success. The large concert room and a marquee were required to hold the numerous exhibits. Down the centre on the floor were arranged the groups of miscellaneous plants, and a very pretty effect they made. The first prize exhibit came from Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Park, Bishopstoke, and was most artistically arranged. From the groundwork of Maiden-hair Ferns rose Orchids, Crotons, and Carnations, not in the least crowded. Mr. W. Peel, gardener to Miss Todd, Shirley, was second with a bright and attractive exhibit, which lacked the Orchids of the first prize group. Mr. E. Wills, Winchester Road, Shirley, was third.

Specimen stove and greenhouse plants were well shown. In the class for six, Mr. Peel with *Ixora Williamsi*, *Anthurium Scherzerianum*, a huge *Latania borbonica*, and *Croton angustifolium* was easily first; Mr. H. Osman, gardener to Mrs. Hasellott, Bitterne, second. For four plants Mr. N. Blandford, Bitterne, easily won premier place with *Bougainvillea glabra*, *Stephanotis floribunda*, and *Clerodendron Balfourianum* as his

arrangement. Fruits and vegetables were well represented for the early season. Mr. Bowerman, gardener to Mrs. C. Hoare, Hackwood Park, Basingstoke, won in many classes.

BATH.—JUNE 28TH.

THE annual show of this popular Society was held in the Sydney Gardens on the above date, and taking into account the adverse nature of the season, was an excellent one. Some classes were keenly contested, others not so. Strawberries and Begonias, which are associated with the Roses, did not make such an extensive display as usual, though some meritorious exhibits of both were staged.

In the nurserymen's class for seventy-two distinct varieties of Roses Messrs. A. Dickson & Sons, Newtownards, were first; Messrs. Cooling and Sons, Bath, staging well for second place. The same exhibitors repeated their successes for thirty-six varieties, three trusses of each. Besides winning the two principal prizes, Messrs. Alexander Dickson and Sons carried off the National Rose Society's medal for the best Hybrid Perpetual in the show with *Mildred Grant*, a new variety raised by the exhibitors. For thirty-six single trusses Mr. A. A. Walters, Bath, took

first; Messrs. J. Townsend & Sons second; and Mr. G. Prince third. The latter took first for eighteen varieties, followed by Messrs. Townsend and Pewtress Bros. in the order of their names. For eighteen Teas or Noisettes, distinct, Mr. G. Prince was again to the front; Mr. Mattock, Oxford, second; and Messrs. A. Dickson & Sons third.

The class for garden or decorative Roses, open, found in Messrs. Cooling and Sons a strong competitor, Mr. Mattock and Mr. Walters following. The two first named were successful for twelve bunches of single Roses in triplets. Messrs. Dickson & Sons and Cooling & Sons took the prizes for six trusses of any new variety with Bessie Brown and Purity. Mr. Mattock had the best Tea in the show—Comtesse de Nadailac—for which he was awarded the silver medal.

In the amateur section Mr. A. H. Gray, Bath, won the first prize for eighteen distinct Tea or Noisettes, single trusses. Mr. Conway Jones and Mr. S. P. Budd, Bath, being second and third respectively. The Rev. R. Powley, Warminster, won with twelve, and Mr. A. H. Gray for six distinct varieties. For thirty-six Hybrid Perpetuals, distinct, the Rev. J. H. Pemberton was first, and Mr. Budd second, the last named securing first for eighteen distinct. Messrs. T. Hobbs, Bristol, Conway Jones, and A. H. Gray took the prizes for twenty-four distinct varieties, the last named winning for twelve triplets, distinct, twelve single trusses, and six distinct varieties respectively. The Rev. J. H. Pemberton was the winner in the class for nine sorts shown in bunches, and also for six bunches of single Roses. Messrs. Dickson & Sons continued their success in a class for twelve blooms of any Rose, and with Marquise Litta they won the premier award for twelve of any crimson variety.

Groups are always a feature at the Bath summer and autumn shows, but Mr. Cypher—ever a welcome competitor—was absent on this occasion. R. B. Cater, Esq., a good supporter of the show for many years, secured the coveted leading position with a bold arrangement, Messrs. E. S. Cole & Son and Mr. G. Hallet, both of Bath, taking the remaining prizes. Besides the groups of 200 square feet there were tables of ornamental and flowering plants, both open, and for amateurs, arranged for effect. Messrs. Cooling & Sons and R. B. Cater, Esq., secured the leading prizes in the first named, and W. Eaton-Young, Esq., Mrs. Stothart, and Lady Pitman the prizes in the amateurs' class, which is a new one. Bouquets of Roses and other cut flowers were numerous and good, as also were baskets of Roses arranged for effect. Dinner-table arrangements for ladies brought out, as usual, a large entry, and was a much admired feature of the show. Begonias made only a small display, the Rev. York-Fausset securing the first prize in each of the four classes provided, Mrs. Simms and Lady Pitman taking the remaining awards for well grown examples.

Strawberries were fairly numerous, and among them were some fine berries, four classes being set apart for them. Mr. W. D. Porter won with six dishes of thirty berries each; Mr. E. Rickets with three dishes distinct. Mrs. Burridge had the best single dish, and Miss Burningham the twelve heaviest berries.

OROYDON.—JUNE 28TH.

THIS show maintains its prestige, and the exhibition held at Broad Green was quite up to the average. The Rose classes were well filled as a whole, though perhaps the general quality was hardly so high as is customary.

In the class for forty-eight distinct Roses there were three entries, Messrs. F. Cant & Co., Colchester, securing the first prize with a moderate exhibit. The varieties included Marie Verdier, Captain Christy, François Michelin, Pride of Waltham, La France de 89, Marchioness of Dufferin, Maréchal Niel, Auguste Rigotard, Caroline Testout, Helen Keller, Souvenir d'Elise, Dr. Sewell, Mrs. F. Cant, Mavourneen, Comtesse de Ludre, Charlotte Guillemot, S. M. Rodocanachi, Muriel, Duke of Fife, Comtesse de Nadailac, Gustave Piganeau, Duke of Wellington, Madame Hoste, Madame Cusin, and Souvenir de President Carnot. Messrs. G. and W. H. Burch, Peterborough, secured the second prize with good blooms. Messrs. D. Prior & Son, Colchester, were third.

For twenty-four triplets Messrs. Prior & Son were first with a beautiful exhibit, the blooms being fresh and bright. Amongst the varieties were Marquise Litta, La France, Ulrich Brunner, Mrs. S. Crawford, Prince Camille de Rohan, The Bride, Souvenir de S. A. Prince, Fisher Holmes, Heinrich Schultheis, Marchioness of Downshire, Captain Hayward, Catherine Mermet, Etienne Levet, and Maman Cochet. Messrs. G. & W. H. Burch were second, and Messrs. F. Cant & Co. third. For twenty-four Roses, distinct, Mr. A. G. Green, Colchester, was placed first with a moderate display, and Mr. Thos. Butcher, Shirley, second.

For eighteen Teas and Noisettes, distinct, Messrs. Prior & Son were first with a strong exhibit. The varieties comprised Innocente Pirola, Marie Van Houtte, Souvenir de S. A. Prince, Souvenir d'un Ami, Niphotos, Catherine Mermet, Maréchal Niel, Ernest Metz, Amazone, and others. Messrs. F. Cant & Co. took second position, and Mr. A. G. Green third.

For twelve Roses, one variety, in the H.P. class Messrs. Prior and Son led with a superb box of Mrs. J. Laing; Messrs. F. Cant & Co. following with Mrs. W. J. Grant; and Mr. A. G. Green third with Mrs. J. Laing. For a similar number of Teas Messrs. Prior & Son were again to the fore with Souvenir de S. A. Prince; Messrs. G. & W. H. Burch were second with the Hon. E. Gifford; and Mr. A. G. Green third with Marie Van Houtte.

The challenge cup in the amateur section for thirty-six distinct Roses was won by Mr. F. W. Campion, Colley House, Reigate, with a strong stand. The varieties were Prince Arthur, Maman Cochet, Auguste Rigotard, Madame de Watteville, Ulrich Brunner, Caroline Testout, Gustave Piganeau, La France, Chas. Lefebvre, Countess of

Rosebery, Souvenir d'Elise Vardon, Mrs. S. Crawford, Hon. E. Gifford, J. D. Pawle, Souvenir de S. A. Prince, Marquise Litta, Bridesmaid, Alphonse Souper, Niphotos, S. M. Rodocanachi, Cleopatra, Rosieriste Jacoba, Margaret Dickson, Dupuy Jamain, Madame Cusin, Muriel Grahame, Marie Bahmann, Francisca Kruger, Salamander, Catherine Mermet, François Michelin, The Bride, Mrs. P. Morgan, Caroline Kuster, E. Levet, and Mrs. J. Laing. Mr. E. M. Bethune, Horsham, proved the winner of second place; while Mr. R. E. West, Reigate, came third.

For twelve bunches of garden Roses, Messrs. F. Cant & Co. were the only exhibitors. For twelve Roses, distinct, Mr. E. Mawley was first with a good stand, and Mr. A. Slaughter, Jarvis Villa, Steyning, third. For twelve Teas and Noisettes Mr. E. M. Bethune was awarded second prize and Mr. A. Slaughter third. For four triplets, Mr. G. W. Cook was easily first, Mr. E. Mawley was second, and Mr. E. M. Bethune third. For nine Roses, distinct, Mr. G. W. Cook repeated his success, followed by Mr. W. D. Freshfield, Reigate. In the class for nine Teas or Noisettes, distinct, Mr. G. W. Cook was again to the fore, Mr. W. D. Freshfield taking second position.

For twelve Teas and Noisettes in the amateur division Mr. E. Mawley, Berkhamstead, secured premier award with a good box. In the class for eighteen Teas and Noisettes Mr. E. M. Bethune was placed first with a good exhibit; Mr. T. B. Haywood was second. The same exhibitor secured the first prize for six triplets, and for twelve Roses, one variety, with excellent blooms of Mrs. J. Laing; Mr. F. W. Campion was second with the same variety; and Mr. G. W. Cook, The Briars, North Finchley, third with Captain Hayward.

Messrs. J. Laing & Sons, Forest Hill, staged Roses, Begonias, and ornamental foliage plants in great variety; Messrs. J. Cheal & Sons, Crawley, Roses, Violas, and hardy herbaceous plants; Messrs. H. Cannell and Sons, Swanley, a bright group of Cannas; Messrs. R. Wallace & Co., Colchester, a large display of Lilliums, Calceoliti, Ixias, Ornithogalum arabicum, and Pæonies; and Mr. J. R. Box, Croydon, a group of double and single Begonias, with Palms and Ferns.

RICHMOND.—JUNE 28TH.

THE twenty-fifth annual show was held in the Old Deer Park. The Roses were excellent, and the competition keen. Mr. B. R. Cant succeeded in winning the Chancellor challenge cup for the second time. The table decorations were an excellent feature, as were also the numerous trade exhibits.

In the class for forty-eight trebles, Mr. B. R. Cant, Colchester, secured the coveted award. The exhibit was a fine one, and worthy of the challenge cup. The varieties staged were Helen Keller, Duke of Fife, Madame Cusin, Ulrich Brunner, Lady Mary Fitzwilliam, Duchesse de Morny, A. K. Williams, Madame de Watteville, Comte Raimbault, Mrs. S. Crawford, Kaiserin Augusta Victoria, Rev. Alan Cheales, Marie Verdier, La France, Bridesmaid, Tom Wood, Madame G. Luizet, Dr. Andry, Marquise Litta, Maréchal Niel, Madame Eugène Verdier, Le Havre, Souvenir d'un Ami, Dupuy Jamain, Auguste Rigotard, Mrs. Cocker, Countess of Rosebery, Souvenir de Madame Eugène Verdier, Fisher Holmes, White Lady, Gustave Piganeau, Souvenir de S. A. Prince, S. M. Rodocanachi, Mrs. John Laing, Duke of Edinburgh, The Bride, Captain Hayward, Marchioness of Downshire, François Michelin, Catherine Mermet, Mrs. W. J. Grant, Camille Bernardin, Crown Prince, Muriel Grahame, Madame Cardeau Ramey, Duke of Wellington, Caroline Testout, and Golden Gate. Messrs. D. Prior & Son, Colchester, came in second with a good exhibit; some of the best blooms were Etienne Levet, Maman Cochet, Tom Wood, and Kaiserin Augusta Victoria, and Messrs. F. Cant & Co., Colchester, third.

Messrs. D. Prior & Son were first for twenty-four trebles with a bright fresh stand. Madame Gabriel Luizet, A. K. Williams, Fisher Holmes, La France, Mrs. W. J. Grant, Helen Keller, Catherine Mermet, Mrs. John Laing, and Marquise Litta were the most noteworthy flowers. Mr. B. R. Cant, Colchester, was second with excellent blooms of Madame Gabriel Luizet, Helen Keller, Ulrich Brunner, Mrs. S. Crawford, and Mrs. Grant; and Messrs. F. Cant & Co. third. For twelve trebles Mr. B. R. Cant was again successful. The best varieties were Mrs. J. Laing, Madame Gabriel Luizet, Mrs. W. J. Grant, Ulrich Brunner, and Lady Mary Fitzwilliam. Messrs. D. Prior & Son, Colchester, were a good second; and Mr. C. Turner, Slough, third.

For twelve blooms, one variety, Mr. Chas. Turner scored with a splendid board of Mrs. John Laing; Mr. B. R. Cant was second with the same variety, and Messrs. D. Prior & Son third with Prince Arthur. For twelve Teas, one variety, Messrs. D. Prior & Son were first with Marie Van Houtte. Messrs. F. Cant & Co. came second with Madame de Watteville, and Mr. W. Vause, Leamington, third with The Bride.

The trade exhibits formed a considerable part of the show. Mr. W. Taylor, Hampton, staged boxes of Roses in which the garden varieties were noteworthy. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, sent a large collection of Roses, the boxes containing the Moss varieties being a feature. Messrs. H. Cannell & Sons, Swanley, arranged a group of seedling Aquilegias and Stocks. Mr. W. Thompson, Sheen Nurseries, Richmond, had a large collection of ornamental foliage plants. Mr. J. Russell, Richmond, staged a large table of hardy flowers, with Sweet Peas as a feature, also a collection of Ivies and other foliage plants. Messrs. Paul & Son, Cheshunt, showed a collection of garden Roses and Pæonies. Messrs. J. Peed & Sons, Norwood, had an attractive display of Gloxinias which were greatly admired, also a group of Carnations and an exhibit of Caladiums. Mr. Fromow, Chiswick, had an interesting collection of Japanese Maples. Mr. Icton, Putney arranged a group of Palms and other foliage plants. Mr. H. J. Jones had as

attractive exhibit of double and single Begonias and Gloxinias well arranged with foliage plants. Messrs. Jas. Veitch & Sons, Ltd., Chelsea, were present with a collection of Pæonies and other hardy flowers. Messrs. J. Hill & Sons arranged a collection of Ferns. Mr. T. S. Ware, Ltd., Tottenham, staged a group of Begonias, the double varieties being strongly in evidence.

RYDE.—JUNE 28TH.

THE Ryde Horticultural Society held its annual show of Roses in the beautiful grounds of Appley Towers, by the kind permission of Mr. G. W. Hutt, and with the exception of a thunder shower in the afternoon, the day was all that could be desired; the attendance was exceptionally large. The Island Roses were of first-class quality; size, form, colour, and substance of the blooms being remarkably good.

In the open classes for thirty-six Roses in twenty-four varieties, twenty-four distinct, and twelve Teas, distinct, Messrs. F. Cant & Co. secured the leading honours. In the Island classes, Mrs. E. Croft Murray (gardener, Mr. G. H. Kent), was first in each of the following classes: Twenty-four Roses, distinct, twelve distinct, eighteen distinct, six bunches of garden Roses, and for a miscellaneous collection of Roses; the same exhibitor also secured the I.W. Horticultural Improvement Association's certificate for the best stand of Roses in the show. Mr. T. L. Winthorpe (gardener, Mr. Chas. Pruce), secured the premier awards for a bouquet of Roses, a hand bouquet, and a basket of Roses. J. O. Brook, Esq. (gardener, Mr. W. Spragg), Rev. J. Shearme, Col. Smith, S. Prismall, Mr. J. Lee-White (gardener, Mr. Knapp), Miss Carter (gardener, Mr. G. Kent), Mrs. Mainwaring (gardener, Mr. W. Burden), Mrs. Harbridge (gardener, Mr. J. Cluitt), were also successful exhibitors in the Island classes.

The principal prizewinners in the amateurs' and cottagers' section were Messrs. G. Williams, G. E. Lipscombe, G. Leek, B. H. Bullock, J. Woodford, and Victor Kent. For table decorations, Mrs. G. H. Kent and Mrs. A. Mearman secured first and second prizes, respectively. Mr. E. C. Goble, F.R.H.S., staged a large collection of border Carnations, and secured for a crimson seedling (Carrisbrook Castle) the I.W. Horticultural Improvement Association's certificate for a new variety. The exhibition reflects great credit upon the genial Hon. Secretary, Mr. J. Eley.

CANTERBURY.—JUNE 29TH.

THE twenty-first annual exhibition of the Canterbury and Kent Rose Society was held in the Foresters' Hall on June 29th. Owing to the lateness of the Rose season in the locality the show was not quite up to the usual standard, either in respect to the number or quality of the exhibits, though one of the features of the show was the flowers staged by Mr. G. Mount, not for competition.

In the premier class for eighteen blooms in distinct varieties the first honours fell to Mr. R. E. West, Reigate, who showed fresh-looking specimens of Etienne Levet, Mrs. S. Crawford, Star of Waltham, Mrs. J. Laing, La France, Francois Michelin, Maman Cochet, Duke of Edinburgh, Niphetos, Prince Arthur, Dupuy Jamain, Madame G. Luizet, Louis Van Houtte, Madame Hoste, Gustave Piganeau, Innocente Pirola, Suzanne Marie Rodocanachi, and A. K. Williams. Mr. J. Stonely was a very close second, and Mr. H. Walters, Eastwell Park, third.

Mr. West also had the best twelve blooms in distinct varieties, showing in his stand good flowers of Mrs. J. Laing, Baroness Rothschild, and Marie Baumann. Mr. Walters again took second honours, and Col. Pitt third. Col. Pitt had the best stand of six varieties, three trusses of each. Among his flowers were good specimens of Madame Gabriel Luizet and Dupuy Jamain. Mr. J. Stonely was a good second, and Mr. H. Walters third.

In the section open to growers of less than 1000 plants Mr. S. Hill Dean had the best dozen distinct flowers, which included fresh specimens of Maman Cochet, Madame G. Luizet, Dupuy Jamain, and La France. Miss Hawksworth won in the class for nine distinct blooms. Mr. S. Hill Dean claimed premier honours with four trebles, showing The Bride, A. K. Williams, Maman Cochet, and Mrs. J. Wilson. Mr. H. Foster, Ashford, was second; and Miss Hawksworth third.

Canon Holland had the best three Teas in distinct varieties, showing Madame Lambard, Marie Van Houtte, and Madame Cusin. For six Teas the highest honours fell to Mr. J. Stonely, who showed Innocente Pirola, Souvenir d'Elise Vardon, Ethel Brownlow, Souvenir de S. A. Prince, Hon. E. Gifford, and Comtesse de Nadaillac. The Rev. F. R. Burnside was second, and Mr. W. Saunders third. Col. Pitt had the best nine Teas, showing among others good flowers of Anna Olivier, Marie Van Houtte, and Comtesse de Nadaillac. There were only two exhibitors in the class. For six Teas in one variety Mr. T. Wachter was first with Comtesse de Nadaillac, Mr. S. Hill Dean being second, and Col. Pitt third. Miss E. Margerison showed three fair flowers in the class for three distinct blooms, and the same exhibitor also had the best half dozen in distinct sorts, open to growers of less than 150 plants. Mr. C. C. Williamson was second.

Col. Pitt has the best six H.P.'s in one variety, showing Madame G. Luizet. Mr. H. Walters, Eastwell Park, was second; and Mr. J. Stonely third. Mr. S. Hill Dean had the best nine trusses in distinct varieties, his best flowers being The Bride and Maman Cochet. Mr. W. Saunders was placed first with six blooms in distinct varieties, followed by Canon Holland, and the latter exhibitor won with three trebles. In the class for a basket of Roses Miss Worsam, Ashford, was first with an arrangement of William Allan Richardson, Miss Bron second, and Miss E. Worsam third.

DUBLIN.—JUNE 29TH.

THE faithful were wending their way to prayers as we took the opportunity of a brief pre-judicial inspection of the summer show of the Royal Horticultural Society of Ireland. Held this year on the festival of St. Peter and St. Paul, it was, for this season at least, held in the time of Roses, and one cannot but recollect that, even with later dates, this has not always obtained. The Society had pitched its tents for the Rose feast on the greensward of Merrion Square, and armed with a passport, which was not scrutinised, we entered the gates and were in the thick of the table-laying. Perhaps we expected too much, perhaps not; anyway, considering the propitious season, quantity or quality did not appear to be over-average, if even the border-line was reached, and when all was fixed up decently and in order, the roomy tents gave the appearance of being only scantily furnished. Notably was this the case in those devoted to miscellaneous exhibits, which inadequately backed up an exhibition of which Roses were, of course, the chief feature.

The challenge plate, value 25 guineas, presented by Messrs. Alex. Dickson & Sons of Newtownards for the best stand of thirty-six blooms, in not less than twenty-four varieties, was easily taken by Mr. Colohan, gardener to F. A. Millar, Esq., with a good stand of fresh, well contrasted blooms, among which Mrs. J. Laing, Margaret Dickson, H. Schultheis, La France, and Countess of Rosebery were conspicuous. Mr. Porter, gardener to Lord Ashtown, came second, in whose stand was a fine bloom of Killarney; Mr. O'Leary having to be content with third honours for H. Dudgeon, Esq.

The class for twenty-four blooms, distinct, was again led by Mr. Colohan, followed by Hume Dudgeon, Esq., and Lord Ashtown, respectively. For twelve Roses, each different, Mr. E. Bewley, R. H. McComas, Esq., and Lord Ashbrook, were placed in sequence; and for twelve Teas and Noisettes, in six varieties, the prizes were awarded to Captain Lewis Riall, F. A. Millar, Esq., and Lord Ashtown; Mr. E. Bewley taking first for a stand of six Teas and Noisettes. First for six dark Roses went to F. A. Millar, Esq., who also led in the class for six light varieties; and Hume Dudgeon, Esq., had the best six La France, capably staged by Mr. O'Leary. A silver-gilt, silver, and bronze medal of the Society were offered for three bunches, in three varieties, set up in vases, and were won by Hume Dudgeon, Esq., Geo. Drimble, Esq., and Edmund D'Olier, Esq. Miss Peyton was awarded first prize for a basket of Roses and foliage; Miss Pim second, and H. Dudgeon, Esq., with a charming basket of Duke of Edinburgh, daintily set up by a young lady, to whom we, in our ignorance, had pre-awarded the palm, had to be content with third.

Space precludes notice of a few minor awards in the Rose tent, but honour must be given to the great Irish rosarians, Messrs. Dickson of Newtownards, for a grand exhibit set up in their faultless way, which occupied a long side table. Mrs. W. J. Grant, Triomphe de Caen, Mrs. Mawley, Rev. Alan Cheale, and Bessie Brown, a charming H.T., stood out conspicuously amongst the hundreds of fine blooms. The Dicksonian stand of twelve Marquise Litta was, too, a thing of beauty, and for mention ere remarking that here endeth the Roses.

Not in order of sequence, but probably in interest, hardy flowers came next for notice. Here Messrs. Dicksons, Ltd., the old Chester firm, made a brave display, the deep blue, massive, globular heads of Allium nobile standing out boldly in their most interesting group. In the chief competing class for a stand of twenty-four bunches, in not less than eighteen varieties, Lord Ashtown had all his own way; and Mr. Mitchelson, gardener to the Hon. Col. Crichton, came first in the succeeding class for hardy flowers. Honours for the best six table plants were taken by Mr. McLennon, gardener to Lord Carew, and Mr. Rigg, gardener to Lord Cloncurry, to whom was awarded the blue ribbon, a challenge plate value 10 guineas, for a fine stand of Carnations, consisting of twenty-four sprays, three blooms in a spray. A challenge cup, value 5 guineas, presented by Mr. Watson of the Clontarf Nurseries for a stand of twelve bunches of Carnations went to the Hon. Col. Crichton. Harking back for the moment to hardy flowers proper, Mr. Watson staged an excellent exhibit, and his charming stand of Viola blooms, set up in sprays, was quite a feature.

Fruit classes were not strong, but Black Hamburg Grapes were grandly shown by F. V. Westby, Esq., reminding one of the Coleman Hamburgs which made Eastnor Castle noted back in the seventies; and Strawberries were never better dished up in Dublin than those which secured for Edmund D'Olier, Esq., the first prize for a single dish. Tomatoes were brought up in fine form by Mr. McKenna of Charleville, who also came first with three dishes of Strawberries in that class. Other classes are regretfully, but unavoidably, passed over, although a passing notice must be given to the beautiful plant group contributed by F. W. Moore, Esq., from the Botanic Gardens, Glasnevin, containing amongst the rich and rare fine specimens of Acalypha hispida (Sanderi), not forgetting two of his pupils, lady gardeners, who were as busy as bees—looking on—while he and his men gardeners set up the group in his own inimitable style.—K., Dublin.

SUTTON.—JUNE 29TH.

THE eighteenth annual exhibition of this Society was held in the Public Hall, and was one of the best shows the Society has ever had. The hall was completely full of exhibits, and there appeared to be much interest centred in the local challenge cup, while the open classes were well filled.

In the class for thirty-six distinct trusses there were five competitors. Messrs. Harkness & Sons were the most successful. The varieties

were S. M. Rodocanachi, Heinrich Schultheis, Duke of Edinburgh, Madame de Watteville, Etienne Levet, White Lady, Maréchal Niel, Chas. Lefebvre, La Fraicheur, A. Souper, Mrs. J. Laing, Madame Hausmann, Duchess of Bedford, Mavourneen, Duc de Rohan, Rubens, Dr. Andry, Clara Watson, A. K. Williams, Alice Perkins, Gustave Piganeau, Margaret Dickson, Général Jacqueminot, Mrs. Harkness, Pride of Waltham, Prince Arthur, Madame Hoste, Horace Vernet, Mrs. W. J. Grant, Captain Hayward, François Michelin, Souvenir de S. A. Prince, Gloire de Margottin, Madame Gabriel Luizet, Duke of Wellington, and Mrs. S. Crawford. Mr. B. R. Cant, Colchester, was second with a very close stand. The best flowers were Marie Baumann, Tom Wood, Madame Gabriel Luizet, Lady Mary Fitzwilliam, François Michelin, Mrs. J. Laing, Gustave Piganeau, and Marie Verdier; and Messrs. D. Prior and Son, Colchester, third. There was little to choose between the first three stands.

Six competitors faced the Judges in the class for twenty-four trusses, distinct. The Judges appeared to find it impossible to locate the best stand, therefore Messrs. B. R. Cant and Prior & Son were placed equal first. In the former stand Tom Wood, Lady Mary Fitzwilliam, Mrs. J. Laing, François Michelin, White Lady, Madame G. Luizet, Marie Verdier, and Ulrich Brunner were the best flowers, while the latter firm exhibited Mrs. J. Laing, Captain Hayward, Mrs. W. J. Grant, S. M. Rodocanachi, Dupuy Jamin, Tom Wood, and Caroline Testout in capital condition; and Messrs. F. Cant & Co., Colchester, were third with a close exhibit.

For twelve Teas or Noisettes, distinct, there were only three competitors. Messrs. D. Prior & Son were first with a strong exhibit; the varieties were Niphetos, Catherine Mermet, Souvenir de S. A. Prince, Innocente Pirola, Madame Cusin, Madame de Watteville, Caroline Kuster, Cleopatra, Medea, Maman Cochet, Marie Van Houtte, and Alba Roses. Messrs. F. Cant & Co. came second with a bright collection; the best flowers were Ethel Brownlow, Madame Cusin, Jules Finger, Marie Van Houtte, Amazone, Medea, and Madame Hoste; and Mr. B. R. Cant third.

For twenty-four trusses, distinct, in the amateur division, Mr. E. M. Bethune, Horsham, proved the victor with a clean, fresh board, the best flowers were Ulrich Brunner, Mrs. J. Laing, Marie Baumann, The Bride, Etienne Levet, Bridesmaid, and Kaiserin Augusta Victoria; Mr. R. E. West, Reigate, took second place. For eight trebles Mr. E. M. Bethune was again in the first place with a capital exhibit. The varieties were Mad. Gabriel Luizet, Mrs. J. Laing, Marie Van Houtte, Marie Baumann, Caroline Testout, Mrs. Sharman Crawford, Kaiserin Augusta Victoria, and S. M. Rodocanachi. Mr. R. E. West followed. There was a better competition in the class for twelve Teas or Noisettes. Mr. E. M. Bethune again secured the premier award with Caroline Kuster, Souvenir d'Elise, Ernest Metz, Medea, Catherine Mermet, Francisca Kruger, Bridesmaid, Comtesse de Nadaillac, and The Bride, in good condition. Mr. R. E. West was second, and Mr. R. W. Miller third.

For twelve distinct trusses Mr. P. Burnand secured the first place with a capital exhibit, Mr. W. C. Romaine taking second place. For six trebles Mr. Percy Burnand was again first with a beautiful box. The varieties most noteworthy were Mrs. S. Crawford, Captain Hayward, Madame Gabriel Luizet, and Innocente Pirola; Mr. W. C. Romaine was second. For nine distinct trusses Mr. G. W. Cook, Finchley, was easily the victor, followed by Messrs. G. Moules and E. Wulkins in the order named.

NATIONAL ROSE SOCIETY, CRYSTAL PALACE.

JULY 1ST.

THE exhibition of Roses, that has become such a prominent feature, not only in the Rose world, but also in the list of the Crystal Palace Company's attractions, was held on Saturday last under fairly favourable auspices, so far as the weather is concerned. Rose growers have long known from bitter experience that the season was a most unpropitious one, and this was only too well illustrated on this occasion, when weak flowers were far more numerous than one is accustomed to see at these gatherings. Not that the show was a failure—it was not that, but the average of excellence has become so high, that when an exhibition falls below the retrogression becomes at once very noticeable. In numbers, too, there was a marked diminution, the entrants having fallen from eleven to three in some of the classes. This decrease was perceptible in both the nurserymen's and amateurs' classes, and several growers who have been prominent at previous shows were on this occasion conspicuous by their absence. As usual the arrangements were admirably carried out, and reflected much credit on Mr. Mawley. It was painful to many visitors to see Mr. D'Ombrian, hitherto so active, being wheeled in a chair, and everyone will express a heartfelt wish that he may be restored to good health, not for the benefit of rosarians alone, but also of the horticultural world throughout the kingdom.

NURSERYMEN—GENERAL SECTION.

The immense amount of interest that customarily centres in what is known as the nurserymen's trophy class showed no signs of diminution, for from the time of judging there was a constant stream of visitors before the several boxes. There were six competitors, each staging seventy-two distinct single trusses, and, needless to say, the number of excellent flowers was considerable. The premier award went to Mr. B. R. Cant, who staged splendidly. There were colour, form, and freshness in almost all the blooms, the varieties of which included Gustave Piganeau, Marchioness of Dufferin, Duke of Edinburgh, Mrs. R. G. S. Crawford, Ulrich Brunner, Countess of Caledon, Maurice Bernardin, La France, François Michelin, Cleopatra, Tom Wood, Lady Mary Fitzwilliam, S. M. Rodocanachi, Muriel Grahame (superb), Marquise Litta, Mrs. J. Laing, Xavier Olibo, Mrs. W. J. Grant, Madame Victor Verdier,

Her Majesty, Duke of Fife, Caroline Testout, Crown Prince, Madame Gabriel Luizet, Bridesmaid, Auguste Rigotard, The Bride, Marie Verdier, Marchioness of Londonderry, Marie Baumann, Madame Cusin, Le Havre, Mrs. Sandford, Rev. Alan Cheales, Souvenir d'Elise Vardon, Helen Keller, Charlotte Guillemot, Alfred Colomb, Jean Ducher, H. race Vernet, Souvenir de S. A. Prince, Duchesse de Morny, Kaiserin Augusta Victoria, Abel Carrière, Innocente Pirola, Général Jacqueminot, White Lady, Dupuy Jamin, Edouard André, Souvenir d'un Ami, Duke of Connaught, Comtesse de Nadaillac, Comte Raimbaud, Golden Gate, Sultan of Zanzibar, Margaret Dickson, Madame Eugène Verdier, Maréchal Niel, Marie Rady, Medea, Mons. Noman, Maman Cochet, A. K. Williams, Marchioness of Downshire, La Fraicheur, Catherine Mermet, Comtesse de Ludre, Madame de Watteville, Earl of Dufferin, Ernest Metz, Mrs. Cocker, and Madame Hoste. The second position was annexed by Messrs. D. Prior and Son, who were in strong form. The varieties included Ethel Brownlow, A. K. Williams, Comtesse de Nadaillac, Mrs. R. G. Sharman Crawford, Marquise Litta, Her Majesty, Pride of Reigate, Mrs. W. J. Grant, Capt. Hayward, Bridesmaid, Fisher Holmes, Madame Gabriel Luizet, Maman Cochet, Jean Ducher, Cleopatra, Tom Wood, Mrs. J. Laing (superb), Prince Arthur, Marie Verdier, and Marie Van Houtte. The third position was assigned to Messrs. Harkness & Sons, Bedale, whose stand contained good examples of Comtesse de Ludre, Luciole, Marie Verdier, Bridesmaid, A. K. Williams, Horace Vernet, and Mrs. W. J. Grant.

A most interesting class is that for forty distinct varieties, three trusses of each, arranged triangularly, which perhaps calls for more skill in the placing of the blooms than in the case of the singles, as the judicious blending of the colours largely governs the whole appearance of the exhibit. The stand sent by Messrs. D. Prior & Son, Colchester, and to which the premier award was given, was composed of Mrs. J. Laing, Général Jacqueminot (very fine), La France, Helen Keller, White Lady, François Michelin, Mrs. R. G. S. Crawford, Marie Baumann, Madame Gabriel Luizet (fine), Beauty of Waltham, Her Majesty, Duchesse de Morny, Margaret Boudet, Madame C. Joigneau, Maman Cochet (fine), Prince Camille de Rohan, Kaiserin Augusta Victoria, Marquise Litta, Lady Mary Fitzwilliam, Ulrich Brunner, Prince Arthur, Marchioness of Downshire, E. Y. Teas, Innocente Pirola, Susanne M. Rodocanachi (fine), Caroline Testout, Earl of Dufferin, Marie Van Houtte (very delicate), Marie Verdier, The Bride, Abel Carrière, Mrs. W. J. Grant (very fine), Camille Bernardin, Maréchal Niel, Tom Wood, Margaret Dickson (splendid), A. K. Williams, Madame de Watteville, Dupuy Jamin, and Merveille de Lyon. Mr. B. R. Cant was second. His best examples were of Mrs. J. Laing, Gustave Piganeau, Marquise Litta, Madame Gabriel Luizet (fine), Tom Wood, Kaiserin Augusta Victoria, Bridesmaid, Madame Cusin (fine), Marie Verdier, Mrs. W. J. Grant (splendid), and Souvenir de S. A. Prince. Messrs. F. Cant & Co. were third. There were five competitors.

For forty-eight Roses, distinct, the competition was keen, there being three exhibitors, of whom Messrs. J. Townsend & Co. went to the front. The varieties comprised Gustave Piganeau (very fine), Caroline Testout, Marquise Litta, Mrs. J. Laing, Etienne Levet, Maréchal Niel, Marie Rady, A. K. Williams, Her Majesty, Fisher Holmes, Madame G. Luizet, Comte Raimbaud, Heinrich Schultheis, Ulrich Brunner, Niphetos, Souvenir de S. A. Prince, Maurice Bernardin, White Lady, Alfred Colomb, The Bride, La France de 89, Madame de Watteville, Earl Dufferin, Clio, Général Jacqueminot, Marchioness of Londonderry, Victor Verdier, Pride of Waltham, Prince Arthur, Mrs. W. J. Grant, Prince Camille de Rohan, S. M. Rodocanachi, Margaret Dickson, Horace Vernet, Mrs. R. G. S. Crawford, Souvenir de Thérèse Levet, Merveille de Lyon, Chas. Lefebvre, Catherine Mermet, Duke of Teck, Marie Van Houtte, Dupuy Jamin, Innocente Pirola, Madame Isaac Perliere, Caroline Kuster, Abel Carrière, and Bridesmaid. The flowers were even and clean, though not particularly large. Messrs. G. & W. H. Burch, Peterborough, were second with a less even stand. The best were White Lady (fine), Gustave Piganeau, Madame Joseph Desbois, Duchess of Bedford, Marchioness of Dufferin, Clio, and Ulrich Brunner. Messrs. J. Burrell & Co. were a creditable third.

In the class for twenty-four distinct single trusses there were seven exhibitors, and many were the handsome flowers contributed. Mr. G. Prince was a splendid premier prizetaker with flowers that were fresh and bright. The varieties were Comtesse de Nadaillac, Marquise Litta, Her Majesty, A. K. Williams, Beauté Lyonnaise, Ulrich Brunner, Maréchal Niel, Mrs. R. G. S. Crawford, Mrs. W. J. Grant, Souvenir de S. A. Prince, Reynolds Hole, Margaret Dickson, Gustave Piganeau, Maman Cochet, Victor Hugo, Innocente Pirola, The Bride, Prince Camille de Rohan, Souvenir d'un Ami, François Michelin, Catherine Mermet, Sultan of Zanzibar, Golden Gate, and Mrs. John Laing. Mr. C. Turner was a most creditable second, with best examples of Muriel Grahame, Madame G. Luizet, Maman Cochet, Bridesmaid, Prince Arthur, and Kaiserin Augusta Victoria. Mr. J. Mattock secured the third place.

There were five stands in the class for twenty-four trebles, and Mr. J. Mattock proved to be the most successful. The board comprised Mrs. J. Laing, Catherine Mermet (fine), Marquise Litta, Souvenir d'un Ami, Gustave Piganeau, Mrs. R. G. S. Crawford, Princess Beatrice, Earl Dufferin, Madame de Watteville, Charles Lefebvre, Her Majesty, Hon. Edith Gifford, Eclair, Princess of Wales, Grand Mogul, Souvenir de S. A. Prince, Madame Cusin, Margaret Dickson, Duke of Fife, Comtesse de Nadaillac, A. K. Williams, Souvenir d'Elise, and Maurice Bernardin. Messrs. G. & W. H. Burch were second with a fresh stand including amongst others Mrs. John Laing, Ulrich Brunner, Gustave Piganeau, Margaret Dickson, Capt. Haward, Madame Hoste, and Niphetos. Messrs. J. Townsend & Sons were third.

According to the schedule class 6 is for "twelve blooms, distinct varieties of Roses sent out by Messrs. A. Dickson & Sons, Newtownards," and a reference note shows that rosarians are indebted to Mr. C. J. Grahame, the eminent amateur, both for the Dickson cup and the sum of £5 which is divided amongst the three prizewinners. On this occasion five stands were placed before the Judges, and the premier position was secured by Messrs. F. Cant & Co., who staged Mrs. R. G. S. Crawford, Mrs. W. J. Grant (very rich), Marchioness of Downshire, Marchioness of Londonderry, Margaret Dickson, Helen Keller, Ethel Brownlow, Marchioness of Dufferin, Countess of Caledon, Ethel Richardson, Tom Wood, and Helen Drew. Messrs. A. Dickson & Sons were second, their best flowers being Mrs. W. J. Grant, Bessie Brown, Muriel Grahame, and Marchioness of Downshire. Mr. B. R. Cant was third.

Then followed a class for twelve distinct varieties (to include not more than six varieties of Teas or Noisettes), seven trusses of each, arranged in twelve vases or other receptacles, exclusive of boxes, on a space not exceeding 6 feet by 4 feet. Mr. G. Prince deservedly secured the chief award with a delightful exhibit of richly coloured flowers. Mr. J. Mattock was a fair second, but the flowers were too formally arranged. Messrs. Paul & Son, Chesham, took third place.

NURSERYMEN—TEA OR NOISETTE SECTION.

A very important and always beautiful section is this. The chief class was for twenty-four blooms, distinct varieties, and the first prize was handsomely won by Messrs. F. Cant & Co., Colchester, whose examples of Catherine Mermet, Innocente Pirola, Ernest Metz, Madame Cusin, Madame Hoste, Cleopatra, Maman Cochet, Rubens, Souvenir de S. A. Prince, Souvenir d'un Ami, Golden Gate, Niphetos, Madame de Watteville, Bridesmaid, Medea, Amazona, Ethel Brownlow, The Bride, Empress Alexandra of Russia, Marie Van Houtte, Souvenir d'Elise, Comtesse de Nadailac, and Hon. Edith Gifford were good. Mr. B. R. Cant was second with best examples of Madame Cusin, Maréchal Niel, Catherine Mermet, Ethel Brownlow, Princess of Wales, Anna Ollivier, Madame Hoste, and Innocente Pirola. Mr. G. Prince came third with smaller flowers, many of which lacked freshness.

For twelve Teas and Noisettes, distinct, single trusses, Mr. J. Mattock went ahead with small fresh and brightly coloured blooms of Madame de Watteville (fine), Maréchal Niel, Souvenir d'un Ami, Souvenir d'Elise Vardon, Amazona, Catherine Mermet (fine), The Bride, Maman Cochet, Comtesse de Nadailac, Souvenir de S. A. Prince, Princess of Wales, and Madame Hoste. Messrs. J. Rurrell & Co., Cambridge, took the second award with a lively stand. The best were The Bride (very fine), Maman Cochet (rich in colour), Luciole, and Ernest Metz. Messrs. J. Townsend and Sons, Worcester, were third with small flowers.

In the class for eighteen Teas and Noisettes, distinct varieties, three blooms of each, there were four exhibitors. Mr. G. Prince, with a beautiful stand, was first. The flowers were clean, fresh, and of good colour, and included Maman Cochet, Souvenir de S. A. Prince, Souvenir d'un Ami, Comtesse de Nadailac, Golden Gate, Madame de Watteville, Annie Ollivier, Catherine Mermet, The Bride, Muriel Grahame, Bridesmaid, Maréchal Niel, Ernest Metz, Luciole, Innocente Pirola, Princess of Wales, Niphetos, and Madame Cusin. Mr. B. R. Cant came second with The Bride, Maman Cochet, Muriel Grahame, Bridesmaid, Cleopatra, Madame de Watteville, Catherine Mermet, Marie Van Houtte, and Souvenir d'un Ami as his best varieties. Messrs. F. Cant & Co. were third.

NURSERYMEN—GARDEN OR DECORATIVE ROSES.

The advance in this section of Rose culture was probably never better illustrated than at the Crystal Palace on Saturday last, when some superb examples were shown. Relative to exhibiting in either of the three subjoined classes, the schedule says: "Exhibits in this section may be staged in vases, boxes, or other receptacles. Each variety to be in a separate receptacle. All Hybrid Perpetuals (except the single flowered varieties) are to be entirely excluded. All Teas and Noisettes and Hybrid Teas mentioned in the N.R.S.'s catalogue of Exhibition Roses are also to be excluded. Moss, Provence, and other summer flowering Roses may be included." The chief class was for thirty-six distinct varieties, not less than three trusses of each, arranged in a space not exceeding 10 feet by 3 feet. Messrs. Paul & Son were a grand first with a well-nigh perfect stand, including polyantha grandiflora, rugosa Madame C. Worth, Moss Blanche Moreau, H. T. Dawn, Noisette W. A. Richardson, Paul's Carmine Pillar, Moss Blanche de Courbet, Madame Pernet Ducher, H. T. Camcens, Reine Olga de Wurtemberg, Madame Falcot, Royal Scarlet, Janet's Pride, Ma Capucine, lucida plena, alba simplex, Alister Stella Gray, Crimson Rambler, L'Idéale, Anna Mariade Montravel, Fimbriata, Claire Jacquier, Madame P. Cochet, Rosa Mundi, Souvenir de Christophe Cochet, Moss Profloia, Madame Chedane Guinoisseau, rugosa alba, Payche, Spong, Gloire des Polyantha, Reine Blanche, Gustave Regis, Perles des Jardins, Céline Forestier and Perle d'Or. The only other exhibitors were Messrs. G. Cooling & Sons, Bath, who showed strongly for second place. Very conspicuous were Marquis of Salisbury, Papillon, Dr. Grill, Cooling's Single Crimson Bedder, Mdlle. Laurette Messimy, Crimson Rambler, macrantha, Princess de Monaco, and Dr. Rouges.

Of eighteen distinct varieties, not less than three trusses of each, the space occupied not to exceed 6 feet by 3 feet, there were three competitors, and Messrs. F. Cant & Co. secured the premier award with bunches of Crimson Rambler, W. A. Richardson, Reine Olga de Wurtemberg, Madame Falcot, Marquis of Salisbury, Madame Chedane Guinoisseau, Bardou Job, Crested Moss, Gustave Regis, Cecile Brunner, L'Idéale, Souvenir de Catherine Guillot, Mdlle. Laurette Messimy, Madame A. E. Notta, Ma Capucine, Common Moss, Madame Pernet Ducher, and Rainbow. Mr. C. Turner was second, his best flowers being

Gustave Regis, Bardou Job, Rosa Mundi, W. A. Richardson, Hebe's Lip, Madame Pernet Ducher, Old Moss, Reine Olga de Wurtemberg, Red Damask, and Princess Marie. Mr. J. Mattock was third.

There was, too, a further class for eighteen distinct varieties, open to all nurserymen, in which not less than three, or more than seven trusses of each could be staged, and this also was of great beauty. Mr. C. Turner went to the front place with attractive examples of Marquis of Salisbury, Perle des Panachiers, Crimson Rambler, Princess Marie, Reine Olga de Wurtemberg, Rosa Mundi, Madame Pierre Cochet, Madame Cecile Brunner, Old Moss, Alister Stella Gray, L'Idéale, W. A. Richardson, Hebe's Lip, Madame Pernet Ducher, The Garland, Perle d'Or, Madame Fulcot, and Anna Maria de Montravel. Messrs. F. Cant & Co. were second, and Mr. G. Prince third. There were four exhibitors.

OPEN—GENERAL SECTION.

The first class scheduled in the section that was open to all comers was for twelve blooms of Hybrid Teas, distinct varieties, and here of the six stagers Messrs. F. Cant & Co. went right ahead with Mrs. W. J. Grant, Caroline Testout, Marquise Litta, La France, Lady Mary Fitzwilliam, Charlotte Guillemot, Clara Watson, Kaiserin Augusta Victoria, Souvenir de Madame Eugène Verdier, Viscountess Folkestone, Souvenir de President Carnot, and Madame Abel Chatenay, all in good form. Mr. B. R. Cant was second, and showed Marquise Litta, Mrs. W. J. Grant, Killarney, Souvenir de President Carnot, and La Fraicheur in great form. Messrs. A. Dickson & Sons were third.

There were six stands in the class for twelve blooms of any yellow Rose, and superb quality was conspicuous. Mr. G. Prince with beautifully coloured Comtesse de Nadailac was a decided first; Mr. J. Mattock, Headington, Oxford, was second with richly hued blooms of Marie Van Houtte; and Mr. B. R. Cant third with Madame Hoste. In the class for twelve blooms of any white Rose twelve growers faced the Judges, and of these Mr. B. R. Cant was a grand first with White Lady in perfect form; Messrs. A. Dickson & Sons were first with Bessie Brown; and Messrs. D. Prior & Son third with The Bride.

For twelve blooms of any light or dark crimson Rose there were eight competitors, all showing well. Messrs. D. Prior & Son were first with a beautiful stand of Général Jacqueminot; Mr. C. Turner, Slough, followed with rather small, but very fresh, clean, and well coloured blooms of Ulrich Brunner; Messrs. J. Townsend & Sons were third with Gustave Piganeau. Mr. C. Turner, with superb flowers of Mrs. J. Laing, was most successful in the class for twelve blooms of any pink or rose coloured Rose out of over a dozen stagers. He was followed by Mr. B. R. Cant with splendid Mrs. W. J. Grant, and Messrs. D. Prior & Son with Mrs. John Laing.

For twelve blooms of any Tea or Noisette Rose, the premier position was secured by Mr. G. Prince with lovely flowers of Comtesse de Nadailac; Mr. J. Mattock was second, and Messrs. F. Cant & Co. third. There were about half a score of exhibitors.

In the class for nine blooms of any new Rose there were four competitors, and Messrs. A. Dickson & Sons secured the premier award with charming examples of Bessie Brown. Mr. B. R. Cant, Colchester, was a good second with clean examples of Mrs. Cocker, and Messrs. F. Cant & Co. third with Mrs. F. Cant. Then came a class for twelve blooms, distinct varieties, of Roses offered for the first time in English nurserymen's lists in the spring of 1898 and subsequently. There were four stagers, and the Messrs. A. Dickson & Sons were again to the front. The varieties comprised Countess of Caledon, Bessie Brown, Rev. Alan Cheales, Killarney, Muriel Grahame, Robert Duncan, Ulster, Mrs. Ed. Mawley, Daisy, Madame C. Ramey, Antoine Rivoire, and Tom Wood. Mr. B. R. Cant followed with best blooms of Antoine Rivoire, Mrs. Cocker, Killarney, and Ferdinand Batel. Messrs. F. Cant and Co. were third.

GOLD MEDAL ROSE.

The class for new seedling Roses was scheduled thus: "Three trusses of any new seedling Rose or distinct sport (either not yet in commerce or not first distributed earlier than November, 1898); a ground plant of the variety must also be shown." Mr. G. W. P. Per, Uckfield, secured the gold medal for Sunrise, a variety that has been largely shown in London this year.

OPEN—GARDEN OR DECORATIVE ROSES.

There were only three classes in this section, of which the principal was for twelve distinct varieties of single flowered Roses (Roses with only one row of petals), not less than three trusses of each. The premier award went to Messrs. Paul & Son, who sent Nutkatensis, Paul's Carmine Pillar, rugosa humilis, Nutkaensis, Royal Scarlet, gallica pumila, Single White, Anderson, Lady Ashton, Brenda, Pink Roamer, and Lady Penance. Mr. C. Turner was second, and Mr. J. Mattock third.

Of nine distinct varieties of Roses, suitable for buttonholes, not less than three or more than seven trusses of each variety, there were four exhibitors, and the prizes went to Messrs. J. Mattock, G. Prince, and J. Townsend & Sons in the order in which their names are here given. The last class in the open section was for a set of three sprays of Roses, suitable for ladies' wear, with any foliage or grasses, and it brought forth three contributors, and Mrs. O. G. Orpen, Colchester, was an easy first. Miss Beatrice H. Langton, Hendon, was second; and Mrs. G. W. Cook, North Finchley, third.

AMATEURS—GENERAL SECTION.

Four competitors faced the Judges in the amateur champion class for thirty-six blooms, distinct, but Mr. E. B. Lindsell, Hitchin, added to his previous victories once more. The exhibit was a worthy one in every way, and contained the medal bloom, which was François

Michelon, Marchioness of Londonderry, Earl Dufferin, La France, Ulrich Brunner, Mrs. J. Laing, Gustave Piganeau, Madame Gabriel Luizet, Captain Hayward, Helen Keller, S. M. Rodocanachi, Mrs. S. Crawford formed the back row, while the second row contained Her Majesty, Bridesmaid, Muriel Grahame, Horace Vernet, Madame de Watteville, Charles Lefebvre, Catherine Mermet, Comte Raimbaud, Madame Cusin, Comtesse de Ludre, Kaiserin Augusta Victoria, and Dupuy Jamsin. The front row flowers were A. K. Williams, Caroline Kuster, Sir Rowland Hill, Innocente Pirola, Duchess of Bedford, Madame E. Verdier, Edouard André, Merveille de Lyon, Marie Baumann, Mrs. W. J. Grant, Madame Hausmann, and Lady Mary Fitzwilliam. Mr. T. B. Haywood, Reigate, was a very close second with typical blooms of Gustave Piganeau, Mrs. W. J. Grant, Her Majesty, Marchioness of Londonderry, Mrs. J. Laing, Caroline Testout, Comtesse d'Oxford, Margaret Dickson, and Tom Wood; the Rev. J. H. Pemberton, Havering, was third with a good display, which included good blooms of Helen Keller, François Michelin, Ulrich Brunner, Mrs. J. Laing, and Mrs. W. J. Grant.

For twenty-four distinct varieties there were four competitors, but the Rev. A. Foster-Melliar proved too strong for his rivals. The exhibit was even and fresh. The varieties were Caroline Testout, Captain Hayward, Mrs. W. J. Grant, Dr. Sewell, Marquise Litta, Viscountess Folkestone, Mrs. J. Laing, Général Jacqueminot, Ulrich Brunner, Margaret Dickson, Madame G. Luizet, Horace Vernet, Mrs. S. Crawford, Madame Hoste, Duchesse de Morny, Souvenir de S. A. Prince, La Boule d'Or, Her Majesty, The Bride, La France, Kaiserin Augusta Victoria, Gustave Piganeau, Medea, and Etienne Levet. Mr. Alfred Tate, Leatherhead, was second with good examples of Her Majesty, Maman Cochet, François Michelin, Gustave Piganeau, Princess Beatrice, and Prince Arthur; and Mr. F. W. Champion, Reigate, third.

There were three entries for the twelve trebles. Mr. E. B. Lindsell, Hitchin, secured the first prize with a splendid stand; the varieties were Her Majesty, Ulrich Brunner, Merveille de Lyon, Marie Baumann, Madame G. Luizet, Caroline Kuster, Kaiserin Augusta Victoria, Mrs. J. Laing, Captain Hayward, Madame Cusin, Gustave Piganeau, and Marchioness of Londonderry. Mr. T. B. Haywood, Reigate, came second with good examples of Eclair, Mrs. S. Crawford, Alfred Colomb, and Ulrich Brunner; and Col. J. H. Pitt, Maidstone, third.

There were only three competitors for twelve blooms one variety, other than Teas or Noisettes. Mr. T. B. Haywood secured a good win with Her Majesty, a fine exhibit. Mr. C. J. Grahame, Leatherhead, followed with Madame Gabriel Luizet, and Mr. O. G. Orpen, Colchester, with Kaiserin Augusta Victoria.

For twenty-four blooms, distinct, Mr. E. M. Bethune, Horsham, was placed first with a bright clean exhibit; the varieties were Gustave Piganeau, Abel Carrière, La France, Rosieriste Jacobs, Mrs. Sharnan Crawford, Marie Baumann, Ulrich Brunner, Star of Waltham, Captain Hayward, Madame G. Luizet, S. M. Rodocanachi, Mrs. J. Laing, Camille Bernardin, Kaiserin Augusta Victoria, Pride of Reigate, A. K. Williams, The Bride, Alfred Colomb, Marie Van Houtte, Duchess of Bedford, Caroline Testout, Victor Hugo, Clara Watson, and Lady Arthur Hill. Mr. W. O. Romaine, Windsor, was a good second with François Michelin, Captain Hayward, Maman Cochet, Earl of Dufferin, and Maréchal Niel, and Mr. R. E. West, Reigate, third.

There were only two exhibitors of eighteen blooms, distinct, and Mr. Conway Jones gained an easy victory with Captain Hayward, Caroline Testout, Ulrich Brunner, Maréchal Niel, Charles Lefebvre, Helen Keller, La France, Dupuy Jamsin, Mrs. J. Laing, Duchesse de Morny, Denmark, François Michelin, Tom Wood, Catherine Mermet, Madame J. Pierre, Maman Cochet, Mrs. W. J. Grant, and Medea; Mr. P. G. C. Burnand, Reigate, was third.

There was a competition of six entries for eight trebles. Mr. Edward Mawley, Berkhamstead, was placed in the first position; his varieties were Caroline Testout, Etienne Levet, Marie Finger, Ulrich Brunner, Margaret Dickson, Mrs. S. Crawford, Marquise Litta, and Mrs. E. Mawley. Mr. P. G. C. Burnand was second with a bright box, which included good blooms of Mrs. J. Laing, La France, Captain Hayward, and François Michelin, and Mr. Conway Jones, Gloucester, was third.

For nine blooms, any variety except Teas and Noisettes, there were six entries, Mr. P. G. C. Burnand taking first with superb blooms of Mrs. S. Crawford; the Rev. Hugh A. Berners, Harkstead Rectory, followed with Margaret Dickson, and Mr. R. E. West, Reigate, was third with Mrs. J. Laing.

The growers of less than a thousand plants made a large entry with eleven boxes for twelve blooms, distinct. This was well won by Miss B. H. Langton, Hendon, with a charming exhibit. The varieties were Mrs. W. J. Grant, Her Majesty, Gustave Piganeau, La France, A. K. Williams, Marquise Litta (silver medal bloom), Caroline Testout, Xavier Olibo, Captain Hayward, Kaiserin Augusta Victoria, Général Jacqueminot, and Mrs. S. Crawford. The Rev. F. Page Roberts, Scole Rectory, came second with good flowers of Lord Wolseley, Souvenir d'Elise, Madame Gabriel Luizet, The Bride, and La France; and Mr. G. Moules, Hitchin, was third. The class for six blooms, one variety, brought out nine exhibits. Mr. G. W. Cook, North Finchley, came first with good blooms of Mrs. J. Laing; Mr. J. Bateman, Highgate, second; and Mr. R. Foley Hobbs, Worcester, third, all showing the same variety.

For growers of less than five hundred plants, nine distinct varieties, seven exhibits were staged. Mrs. L. E. Tinies, Hitchin, was first with a fine box. The varieties were Duke of Wellington, François Michelin, Mrs. J. Laing, Gustave Piganeau, Alfred Colomb, Ulrich Brunner, Margaret Dickson, Louis Van Houtte, and Caroline Testout. Mr. E. R. Smith, Melford Lodge, was second, and Mr. J. Carter, Halstead third.

In the class for six distinct trusses eight boxes were staged, Mr. J. T. Thomprou, Rounds Green, winning first. Mr. W. D. Freshfield, Reigate, came next, and Mr. J. Hunt brought up the rear. Nine competitors staged six blooms, one variety, but the first award fell to Mr. F. Wellesley, Woking, with Mrs. J. Laing. Mr. R. W. Bowyer was second with the same variety, and Mr. G. A. Hammond third with Caroline Testout.

The challenge cup for twelve distinct trusses for growers of less than one thousand plants secured a fine entry. The coveted award went to Mr. G. Moules for a fine box. The varieties were Niphotos, Marquise Litta, Kaiserin Augusta Victoria, François Michelin, Etienne Levet, Madame Cusin, A. K. Williams, Marchioness of Downshire, Souvenir d'Elise Vardon, Xavier Olibo, Comtesse de Nadaillac, and Ulrich Brunner. The Rev. A. C. Johnston was a good second, and Mr. R. Foley Hobbs third.

For four trebles the Rev. F. Page Roberts was a good first, and Mr. G. W. Cook third. The Ramsey cup for twelve blooms, open to all amateurs, was won by the Rev. J. H. Pemberton with good blooms of Marchioness of Dufferin, Marquise Litta, Mrs. J. Laing, Horace Vernet, and Etienne Levet. Mr. C. J. Grahame, Leatherhead, was second, and Mr. E. B. Lindsell had to be content with third place.

For nine distinct varieties, to be displayed in vases, the Rev. J. H. Pemberton was placed first with good bunches of Caroline Testout, Mrs. W. J. Grant, Kaiserin Augusta Victoria, and Mrs. J. Laing, followed by Mr. O. G. Orpen. There were twelve novices who staged six blooms, distinct: Mr. J. T. Thompson, Rounds Green, came out first, and Mr. A. C. Gifford, South Norwood, and Mr. J. Wakeley, Rainham, were placed equal third.

For six blooms, grown within eight miles of Charing Cross, Mr. G. W. Cook had an easy victory, and secured the Langton cup, followed by Mr. J. Bateman and Mr. E. R. Smith in the order named. For six blooms of new Roses the Rev. J. H. Pemberton was first with Lawrence Allen, Bladud, Madame Cadeau Ramey, Tom Wood, Robert Lebaudy, and Madame Eugène Boulet; and Mr. J. Bateman second.

AMATEURS—TEA AND NOISETTE SECTION.

There was a good struggle for the Tea and Noisette trophy class, there being six boards staged, Mr. O. G. Orpen, Colchester, securing the coveted award with a grand box; the varieties were Souvenir de S. A. Prince, Maréchal Niel, Ernest Metz, Elise Fugier (grand), Souvenir d'Elise Vardon, Medea, Sylph, Caroline Kuster, François Debrieux, Anna Olivier, Cleopatra, Corinna, Golden Gate, Bridesmaid, Innocente Pirola, Madame de Watteville, and Marie Van Houtte. Mr. Alex. Hill Gray, Bath, was second with good flowers of Cleopatra, Golden Gate, Catherine Mermet, Maman Cochet, and Princess of Wales, and third honours fell to the Rev. A. Foster-Melliar.

For twelve blooms, distinct varieties, Mr. A. Hill Gray proved the victor. The varieties employed were Maman Cochet, Souvenir d'un Ami, The Bride, Catherine Mermet, Maréchal Niel, Cleopatra, Caroline Kuster, Golden Gate, Comtesse de Nadaillac, Ernest Metz, Princess of Wales, and Innocente Pirola. Mr. Alfred Tate followed with a close stand, staging good specimens of Catherine Mermet, Souvenir d'Elise Vardon, Comtesse de Nadaillac, and Rubens; and the Rev. H. A. Berners, Harkstead Rectory, was third.

Five competitors turned out in the class for eight trebles, Mr. A. Hill Gray coming first with a fresh-looking box. His blooms were Maman Cochet, Maréchal Niel, Madame Cusin, The Bride, Souvenir de S. A. Prince, Comtesse de Nadaillac, Medea, and Catherine Mermet. Mr. O. G. Orpen was a close second with good trebles of Maréchal Niel, Ernest Metz, Sylph, and Innocente Pirola; and Mr. E. M. Bethune, Horsham, third.

For nine blooms, one variety, Mr. A. Hill Gray was first with good examples of The Bride; Mr. E. M. Bethune second with the same variety, and the Rev. H. A. Berners third with the Hon. Edith Gifford. The growers of less than 500 plants made a brave show in the class for twelve distinct varieties, the Rev. F. Page Roberts, Scole Rectory, winning the first prize with a strong box. The varieties were Comtesse de Nadaillac, Niphotos, Maman Cochet, Souvenir de S. A. Prince, Madame Cusin, Souvenir d'Elise, Cleopatra, The Bride, Catherine Mermet, Muriel Grahame, Innocente Pirola, and Pierpoint Morgan. Mr. Conway Jones, Gloucester, was second with some good flowers, which included Comtesse de Nadaillac, The Bride, Maréchal Niel, Niphotos, and Maman Cochet; and Mr. Edward Mawley, Berkhamstead, third.

For nine distinct varieties Miss B. H. Langton, Hendon, was first with a moderate box. Souvenir d'Elise Vardon, Pierpoint Morgan, The Bride, Souvenir de S. A. Prince, Comtesse de Nadaillac, Madame Cusin, Bridesmaid, Innocente Pirola, and Madame de Watteville were the varieties. The Rev. R. Powley, Warminster, was a close second with typical flowers of Catherine Mermet, Medea, Bridesmaid, Innocente Pirola, and Comtesse de Nadaillac; and Mr. Ed. Mawley third.

For six blooms, one variety, there were six entries, Mr. Conway Jones taking the lead with good Maréchal Niels; the Rev. R. Powley second with Madame Cusin, and the Rev. Page Roberts third with Niphotos. The growers of less than 200 plants made eight entries. Mr. A. Munt, Slough, gaining first position with Souvenir de S. A. Prince, Bridesmaid, Maman Cochet, Catherine Mermet, Comtesse de Nadaillac, Muriel Grahame, Madame de Watteville, Madame Cusin, and The Bride. Mr. G. Moules, Hitchin, second with great blooms of Souvenir d'Elise, Catherine Mermet, and Madame Lambert; and Mr. G. H. Baxter, Brentwood, third.

For six blooms, distinct varieties, the Rev. F. R. Burnside, St. Margaret's Bay, Dover, was first with a beautiful exhibit. The varieties

were The Bride, Sylph, Medea, Madame Hoste, Marie Van Houtte, and Madame de Watteville. Mr. R. W. Bowyer, Haileybury College, Hertford, was second with good specimens of Catherine Mermet, Innocente Pirola, and Maman Cochet; and Mr. G. A. Hammond, Burgess Hill, third. For six blooms, one variety, the Rev. A. C. Johnson, Capel St. Mary, Suffolk, led off with a good box of the Hon. Edith Gifford; the Rev. F. R. Burnside following with Madame de Watteville, while Mr. F. Wellesley, Woking, brought up the rear with Anna Ollivier.

For four trebles there were seven competitors, Mr. Conway Jones taking first position with good Maman Cochet, Niphotos, The Bride, and Madame Cusin. Mr. H. P. Landon was second with good examples of Madame Hoste and Cleopatra, while Miss B. H. Langton was third. A pretty class was that for six bunches of seven trusses, arranged in vases. Mr. O. G. Orpen led off in fine style with a grand exhibit. The varieties were Souvenir d'un Ami, Caroline Kuster, Homère, Medea, Souvenir de S. A. Prince, and Marie Van Houtte. Miss B. H. Langton was second; the best vases were Cleopatra, Francisca Kruger, and Anna Ollivier; and the Rev. R. Powley third.

For six Roses, not less than three varieties, Mr. Ernest Bewlay, Rathmines, Dublin, was first with a moderate box of Madame Hoste, Muriel Grahame, Catherine Mermet, The Bride, and Caroline Kuster. Mr. A. C. Turner, was a good second, and Mr. F. Wellesley, third.

AMATEURS—GARDEN OR DECORATIVE ROSES.

For twelve distinct garden Roses, not less than three trusses of each, there were four entries. Mr. A. Tate, Leatherhead, won the cup with an admirable display. The varieties were Crimson Rambler, W. A. Richardson, Reine Olga de Wurtemberg, Hebe's Lip, Aglaia, Rosa Mundi, Gustave Regis, Bardou Job, Marquis of Salisbury, Etoile d'Or, Anna Maria de Montreuil, and Perle d'Or. Mr. O. G. Orpen was second with beautiful bunches of Ma Capucine, L'Idéal, and Gustave Regis, and Mr. F. W. Campain third.

For nine distinct varieties Mrs. A. F. Perkins, Holmwood, Surrey, was placed first with good examples of Camoens, Marquis of Salisbury, Madame Chedane Guinoisseau, and Madame Pernet Ducher; while Miss Dorothy A. Nesfield, Speldhurst, was second, and Miss B. H. Langton third.

For nine bunches of garden Roses the Rev. J. H. Pemberton was first with a bright display. For nine vases of Sweetbriars Mr. F. W. Campain was the only exhibitor, and was awarded first prize for a capital display. The varieties were Brenda, Rose Bradwardine, Anne of Gierstein, Flora McIver, Lady Penzance, Lucy Ashton, Lord Penzance, and Amy Robsart.

SILVER MEDAL ROSES.

The blooms that were selected by the adjudicators as entitled to this special recognition were, in the professional section, Mrs. J. Laing, H.P., from Mr. A. G. Green; Muriel Grahame, T., from Mr. B. R. Cant; and Beattie Brown, H.T., from Messrs. A. Dickson & Sons; and in the amateur section François Michelin, H.P., from Mr. E. B. Lindell; Princess Beatrice, T., from Mr. Alfred Tate; Marquise Litta, H.T., from Miss B. Langton.

MISCELLANEOUS EXHIBITS.

Messrs. J. Laing & Sons, Forest Hill, formed a group of Conifers and shrubs, the variegated and ornamental plants giving the whole a pleasing effect, also a large collection of Sweet Peas, Delphiniums, Lilliums, and a large variety of other flowers. Mr. W. Rumsey, Joynning's Nursery, Waltham Cross, staged a table of his new Rose Mrs. Rumsey, which were in first-rate condition. Messrs. Laxton Bros., Bedford, sent Strawberries Montmore and Thos. Laxton, also Monarch, Admiral, and Louis Gauthier.

Messrs. R. Wallace & Co., Colchester, staged a table of Lilliums, Calceolarias, Peonies, Ixias, and other hardy flowers. Messrs. W. Spooner, Woking, had a good display of garden Roses, also boxes of specimen blooms. Mr. F. G. Foster, Brockhampton Nurseries, Havant, staged a large collection of Sweet Peas intermixed with small Ferns, the colours were bright and fresh looking. Mr. Maurice Pritchard, Christchurch, sent a choice collection of hardy flowers, also some of the newer Nymphaeas. Mr. G. W. Piper, Uckfield, Sussex, staged a charming display of his new Rose Sunrise, which was awarded a gold medal by the Society, as well as a collection of other Roses.

A collection of Carnations arranged with Bamboos and Ferns from Messrs. W. Cutbush & Son, Highgate, formed an attractive exhibit, the Carnations were chiefly of the Malmesbury type. Messrs. J. Chesel & Sons, Crawley, had an extensive display of hardy flowers, also boxes of Roses, and a good collection of hardy flowering shrubs and foliage plants. Messrs. G. Jackman & Son, Woking, staged an extensive display of Roses and other hardy flowers. The garden Roses formed an attractive feature, especially a box of W. A. Richardson, of an exceptionally good colour.

HARROW.—JULY 4TH.

THE annual Rose show was held in the grounds of Dudley Lodge, and as far as the flowers were concerned must be voted a success. The exhibits in the open classes were quite up to the average this season, though perhaps there was not so much competition as last year.

There were four competitors in the class for thirty-six Roses, distinct, Mr. B. R. Cant, Colchester, taking the first prize with a good exhibit. The varieties were Gustave Piganeau, Madame Eugène Verdier, Ulrich Brunner, Innocente Pirola, Helen Keller, Her Majesty, A. K. Williams, Mrs. J. Laing, Duke of Fife, Marchioness of Dufferin, François Michelin, and La France in the back row; the middle row were Kaiserin Augusta Victoria, Maurice Bernardin, White Lady, Earl of Dufferin, Maréchal Niel, Mrs. W. J. Grant, Mrs. Cocker, Madame Delville, Lady Mary Fitz-

william, Dupuy Jamain, Medea, and Captain Hayward; while in the front row were Marie Baumann, Bridesmaid, Prince Arthur, Madame Cusin, Jeanne Souper, Madame G. Luizet, S. M. Rodocanachi, Muriel Grahame, Abel Carrière, Catherine Mermet, Marie Verdier, and Mrs. S. Crawford. Messrs. F. Cant & Co., Colchester, were second with a somewhat weaker display, the rain of the preceding day having left its legacy on the blooms. There were good flowers of Marquise Litta, Mrs. W. J. Grant, A. K. Williams, Margaret Dickson, Medea, Catherine Mermet, Marie Verdier, François Michelin, Captain Hayward, and Mrs. J. Laing. Messrs. Paul and Son, Cheshunt, were third with good blooms of Duke of Fife, Mrs. J. Laing, Captain Hayward, Rev. A. Cheales, and Catherine Mermet.

The Colchester growers had it all to themselves in the class for twelve Teas or Noisettes, Mr. F. Cant taking first with a strong exhibit. The varieties were Maman Cochet (a grand bloom), Medea, Bridesmaid, The Bride, Madame de Watteville, Madame Cusin, Cleopatra, Souvenir d'un Ami, Catherine Mermet, Maréchal Niel, Ethel Brownlow, and Muriel Grahame; while Mr. B. R. Cant followed with Bridesmaid, Catherine Mermet, Souvenir de S. A. Prince, and The Bride.

Three competitors staged in the leading amateur class for twenty-four Roses, distinct, Mr. E. Mawley, Berkhamstead, winning first position in fine style. The varieties were Marquise Litta, Mrs. R. S. Crawford, S. M. Rodocanachi, Her Majesty, Gustave Piganeau, Margaret Dickson, Mrs. W. J. Grant, Ulrich Brunner, Mrs. J. Laing, A. K. Williams, Clio, Dupuy Jamain, Caroline Testout, Comtesse d'Oxford, La France, E. Y. Teas, Mrs. E. Mawley (grand), Marie Finger, Général Jacqueminot, Merveille de Lyon, Marie Baumann, Baroness Rothschild, Prince Arthur, and Etienne Levet. The Rev. J. H. Pemberton, Haverling, was second with good blooms of Marquise Litta, Lawrence Allen, La France, Helen Keller, Madame Joseph Bonnaire, Mrs. J. Laing, and Madame Delville, and Mr. R. E. West, Kelgate, third.

For eighteen Roses, distinct, the first prize was awarded to Mr. G. Acton Davis, Harrow, with a moderate exhibit. The competition for twelve blooms, distinct, was better, Mr. L. S. Pawle, Harrow, coming first with a good box. The best varieties were Caroline Testout, Mrs. J. Laing, Marquise Litta, and Mrs. J. Laing. Mr. J. McAndrews, Harrow, was second with a moderate exhibit, and the Rev. E. C. E. Owen, third.

Mr. J. Allen was first for six Roses, distinct, followed by Mr. W. G. Guillemard, with a close box, while a few exhibitors had added foliage, which effectually put them out of the running; and the same mistake occurred in the class for six Teas or Noisettes. Mr. J. R. Cater, Harrow, was first with neat, fresh blooms, and Captain Johnson second with smaller flowers. In the members' class Mr. F. Spencer won first place with a capital exhibit. Mr. F. Cant secured the medal for the best bloom in the show with Marquise Litta in splendid condition.

Messrs. R. Wallace & Co., Colchester, staged a characteristic display of hardy flowers, which included a choice collection of Lilliums, also Calceolarias, Brodiaeas, Peonies, and Irises. Messrs. Paul & Son, Cheshunt, contributed hardy flowers, chief of which were Phloxes, Morina longifolia, Alströmarias in variety, Agrostemma Walkeri, some good Delphiniums, and Peonies. Messrs. W. Paul & Son, Waltham Cross, presented a fine display of Roses, arranged in boxes and baskets. The most conspicuous were Souvenir de Catherine Guillot, Madame Hoste, White Lady, Aurora, Madame Pernet Ducher, Marquise de Salisbury (a charming basket), Madame Jules Groley, Enchantress, Mrs. W. J. Grant, Tennyson, and Madame Eugène Reseil. Messrs. Kelway, Langport, Somerset, sent a large collection of Delphiniums and Gaillardias in splendid condition. Mr. F. Cant staged a large collection of garden Roses, which were much admired. The chief varieties were Perle d'Or, Laurette Messimy, Queen Mab, Madame A. Gerard, Cecil Brunner, Gustave Regis, Raoul Chauvy, and Marquis of Salisbury.

CHERRIES VERSUS QUASSIA.

THERE are few, very few, I presume, who can produce a crop of Cherries on garden walls without suffering annoyance from the attack made on the trees by the disagreeable multitudes of black aphides. Always when the fruit crop is set and advancing towards the stoning period can these pests be found coating the under sides of the leaves and points in myriads, sucking out the juices from the tree to such an extent that the crop becomes jeopardised, if not actually lost.

It needs an early application of some insecticide to effectually eradicate them, and nothing I have tried does this so well or so cheaply as quassia extract, a compounded decoction of quassia bark and other ingredients fatal in its contact with the enemy in question. The gardener has few, if any, friends among the feathered tribe that will step in and put the flies to a useful purpose as food. They would indeed be benefactors if they could only be induced to cultivate a taste for these or any other of same species. Quassia extract can be prepared at home by boiling the bark with a proportion of soft soap, but as this entails considerable labour, and it can be procured so cheaply from the manufacturing sundriesman, or through the seedsman, it can scarcely be said to be economy to prepare one's own.

There are other insecticides that are equally effectual, no doubt, for Cherry syringing in the summer, but having proved none so exhaustively as quassia, I cannot speak of them with the same confidence. If other readers can name another as effectual, cheap, and easy of preparation, they would be doing good service in giving Journal readers the benefit of their experience and trials. Tobacco water used to be much in favour, but its objectionable smell and stain causes quassia to be placed a long way in front.—S. Wills.

ABNORMAL TULIP.

THE Tulip sent by "R. B." is certainly curious, and though we have occasionally seen examples of the same nature in the late Dr. Hogg's collection, we have not observed any so strong as the specimen which is reproduced in fig. 5.

We sent the specimen to one of our great Tulip experts, who replied: "There is nothing very extraordinary in the occurrence of an axil-bulb, as we call it—i.e., 'c'; still it is a very interesting variation, and seems a curious place for a bulb to form."

"Among my Tulips I have noticed one or two similar instances. In 1892 or 1891 I collected seven or eight from a collection of, as near as I can recollect, 1200 bulbs, and planted them and kept them separately

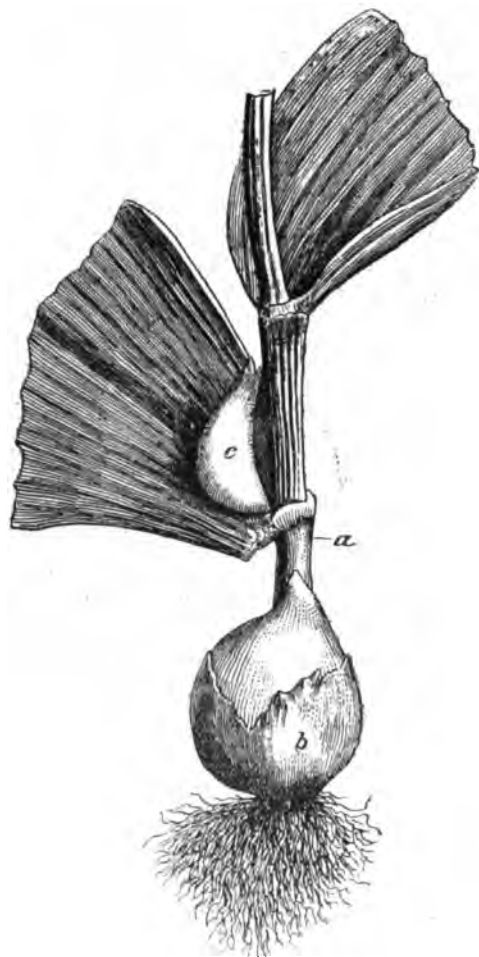


FIG. 5.—TULIP WITH BULB FORMED IN AXIL OF LEAF ABOVE GROUND. (Slightly below natural size.)

References.—a, ground level; b, new bulb formed in the soil; c, bulb in axil of leaf.

noted as 'axil' bulbs; when they bloomed, they were just of the same kind and as though one had planted an ordinary offset; size for size I should prefer an offset as stronger and likely to bloom sooner.

"Interesting the occurrence is decidedly; taken in conjunction with the fact of the bulbs putting down 'droppers'—that is, an offset bulb 6 or 7 inches below the other offsets or main bulb at the bottom of a sort of pipe.

"I can frame no theory on this fact; I once thought that if the Tulip sometimes produced a bulb on the stem in the axil of the guard leaf, and I took away a stem from the bulb as soon as the plant was well grown, I might perhaps propagate a plant like a cutting, but the experiment was, of course, a failure."

THE YOUNG GARDENERS' DOMAIN.

THE STRAWBERRY.

THE Strawberry is one of the best, and also the most popular and profitable of small hardy fruits. It is well worthy of the position it holds, as it is difficult to conceive of anything more pleasing than clean, fresh, well-ripened fruits. The supply from the open ground may be consider-

ably prolonged by making small plantations on borders with south and north aspects; the main portion occupying one of the quarters, and succeeding those on the south borders, and preceding those on the north borders.

To secure the necessary plants in good condition a sufficient quantity of 3 or 4-inch pots may be filled with a compost of good loam, leaf soil, and decayed manure; and in these the runners should be layered as early as obtainable. It is much better to layer them in pots, as by this means earlier and better plants can be obtained, and no check will be experienced in removing them to their final positions. The pots must be examined daily for water, and growth should not be allowed to extend beyond the layered plant. When rooted they may be detached and placed in a shady position, where they should remain until the land is ready for their reception.

Ground that is moderately rich and inclined to be heavy is best suited for the cultivation of the Strawberry. If the site is wet mildew will attack the plants, if too dry they will suffer from drought. It should be trenched 2 feet deep, mixing plenty of stable manure with the soil during the operation, that there may be a store of food from which the plants may obtain an unfailing supply. Newly trenched ground should be allowed to settle or be well trodden before planting, to secure that firm fine tilth so essential to the cultivation of hardy fruits.

Some growers put the plants into nursery beds, and defer planting until spring; but in my experience I have invariably observed the best results to come from those planted in August, as these make good plants by the end of autumn, and a crop of fruit will be secured the following season. The distance apart at which the plants are to be put will depend upon the variety; from 18 to 30 inches between the rows, and 15 to 24 inches in the row, may be taken as a safe rule. It will, however, be found a good plan to put double the number of plants in the row; the crop they yield will amply repay for the little extra labour. After the first year's fruit is gathered every other plant may be removed; the remaining ones will then be at the normal distance apart.

During the month of May, or earlier if required, strawy stable manure may be put between the rows for the purpose of keeping the fruits clean, retaining moisture, and serving as a mulch to the plants, first going over with the Dutch hoe to loosen the surface soil and to destroy weeds. Before the fruit commences to ripen it is good practice to raise them from the ground; this may be done by means of forked twigs, but a better way is to place three or four stakes to a plant, and to put some raffia round them on which to suspend the fruits. The work can be easily and quickly done, and many of the finest fruits will be preserved that might otherwise decay, especially during wet weather. To protect the fruit from birds, stakes should be driven in round the quarter and down the centre; along the tops of these wire or string may be fastened, and over this the net can be placed, pegging it down at the sides and ends.

Attention will be required in taking off runners, especially from young plantations, on which they are produced earlier and more freely than old ones, and if not required they should be removed as they appear, that the plants may not be weakened by useless growth. When the fruit is gathered, and the required number of young plants obtained, the plantation may be cleaned, removing all runners, dead leaves, and manure, and lightly stir the surface of the soil to encourage the growth and the maturing of strong crowns for the ensuing season.—S. P.

AQUILEGIAS.

At the present time, amongst all our hardy plants, too much praise can scarcely be bestowed upon these interesting plants. Their hardiness, freedom in blooming, and effectiveness in various colours make the Columbines most useful. The claims of these plants are such that their exclusion from gardens cannot be justified. A few sprays will furnish any vase, as there is such a degree of lightness, coupled with the peculiar formation of the flowers, that makes them almost unapproachable.

There are a large number of so-called double varieties of the old-fashioned and widely known vulgaris which in its many forms and colours is very desirable. The singular spur-like appendages attached to the Columbines of the present time largely increase their beauty, and have raised them to a favourable position in gardens. Then we have splendid hybrids from the Californian species, also hybrid forms of *Aquilegia cerulea*, *A. chrysantha*, and *A. canadensis*, and others that I have not enumerated, all of which assist in the adornment of our borders.

The culture of Columbines is extremely simple. A deep rich soil is most suitable for them. Some gardeners sow the seed as soon as it is ripe where the plants are to flower, and the method saves time and labour. But on the other hand, better plants are obtained by sowing the seed early in the year under glass in a box of light soil, and as soon as the seedlings attain a suitable size they should be pricked off into boxes. From these they may be removed to nursery beds, where they should be regularly watered, except in showery weather, and finally the plants may be lifted with a ball of soil and placed where they are to flower in the autumn, or they may remain where they were originally planted.—F. W. G.

YORK SHOW.—CORRECTION.—Mr. J. Tullett, Raby Castle Gardens, writes: "I have been reading in the *Journal of Horticulture* your report of the grand Yorkshire Gala. For the collection of fruit, six varieties, you have put Mr. McIndoe first and myself second. This is an error, as I secured the premier award, and Mr. McIndoe the second."



HARDY FRUIT GARDEN.

Propagating Strawberries.—The time has arrived when a stock of young plants should be prepared in order that a new plantation of vigorous stock may be established early, which insures that they will fruit well the following season. When plants are required for pot culture it is also necessary that they be rooted early, for the best and the strongest plants are obtained from the first runners. It is important that propagation be only carried out with runners from fruitful plants, therefore this must be noted now, and any that are not fruitful discarded, also the runners from them destroyed.

Rooting in Small Pots.—Where a good stock of plants is wanted, both for forcing in pots under glass in early spring, and for early planting outdoors in August, the method of rooting into small pots is perhaps the best and most convenient; 3-inch pots or large 60's are the best size. Place a piece of moist turf in the bottom as drainage, then fill up with a mixture of substantial loam and manure, pressing it firmly down. Stand the pots on the soil near the plants, half burying them in the ground as a precaution against drying too quickly or falling over on their sides. Plantlets just emitting roots should be selected, fixing them on the soil in the pots by means of a stone. This is better than pegging or otherwise securing them, as the stone shades the young rootlets and keeps the soil moist. Attend well to the watering until established, and cut off the points of the runners beyond the pots. Sever the runners from the parent plants as soon as possible after the young stock is rooted. The pots may then be conveniently stood together on a moist base of ashes, where it is possible to readily water them.

Rooting in Turves.—This is an excellent method of rooting a stock of plants for forming a new plantation. The turves should be 3 or 4 inches square, well moistened in liquid manure or water, and placed grass side downwards under the plantlets to be rooted. Secure the latter on the turves with a hooked peg or a flat stone, and maintain the turves moist. These need not be removed until the ground is ready for planting, but the runners must be cut off from the parent plants when the young stock has emitted roots into the turf. The great point is to water frequently, so that the turf never becomes dust dry. If the quarters for planting cannot be prepared by the time rooting is effected, it will be the most desirable plan to place the turves closely together on a hard base, and there attend carefully to the demands of the plants for water.

Rooting Between the Rows.—This is a good system for all but the very earliest plants. Slightly fork-up the soil if hard, and introduce a little fresh loamy material. Thin-out the weakest runners, and select the best plantlet for propagation, which is usually the first produced. They soon root in moist weather, but during dry periods encourage growth by watering. Detach the runners from the parent plants as soon as possible after rooting of the young stock is effected. It is essential that overcrowding be avoided, and shading of the young plants by the foliage of the old stools. Many good plants may often be found without any assistance in the matter of rooting, and these come in handy for the later plantings.

Cleansing Fruit Trees.—Frequent applications of water with the syringe, hosepipe, or garden engine do much towards maintaining fruit trees clean, but when much infested with aphids or red spider insecticides should be applied. Tobacco water is one of the best, and may be prepared from tobacco juice, which ought to be diluted six times—that is, adding six times the quantity of water. Shoots that are chiefly infested at the points may be dipped in a rather stronger solution. Caterpillars which roll themselves in the leaves of Apricots must be picked out or crushed. American blight is very conspicuous now on Apple trees, and where there is time to attempt its eradication much of it may be destroyed by well brushing the infested parts with spirits of turpentine or methylated spirits, using, however, no more than is absolutely necessary.

Mulching and Watering Fruit Borders.—The moisture in the soil in which wall trees are growing is usually deficient at the present time owing to the rapid evaporation from the foliage, and the demands upon the roots for the support of the crop. A copious soaking of water should be given, and if there is a good crop of fruit liquid manure may also be applied. A liberal mulching of manure is beneficial, inasmuch as it helps to retain the moisture supplied. The mulching may be given before or after the watering.

Vines on Walls.—New rods or canes ought to be laid in from the lower parts of walls and given plenty of space. Stop laterals beyond the fruit, tying them out in a regular manner. Thin the berries before the bunches become crowded. Mulch the roots, and water freely.

Wall Gooseberries and Currants.—Red and White Currants and Gooseberries when trained on walls need similar treatment. At the present time the summer pruning is the most important item. The side or foreright shoots can be pinched at the third pair of leaves. The leading growth may also be stopped if the space is filled, but not if there is room for further extension.

FRUIT FORCING.

Peaches and Nectarines.—Early Forced Trees.—The trees that were started from early December to the new year will for some time have been cleared of their fruit, and having the wood on which the fruit was borne removed, if not extension, as soon as the fruit was gathered, that retained may be exposed to light and air. It is, of course, essential that the buds be properly formed and perfected, and the wood thoroughly matured, which is encouraged by clean culture and proper supplies of nourishment. The trees, therefore, must be syringed and cleansed of insects, if necessary, by the prompt application of an approved insecticide, and supplied with water or, in the case of weakly trees, liquid manure at the roots. A light mulching will also tend to keep the roots at the surface, and prevent the premature ripening of the foliage. The buds in most cases will be sufficiently plumped, and the wood firm enough to allow the roof-lights being removed. This should not further be delayed, unless the trees are unusually vigorous, when the lights may remain on a time longer, or if lifting is to be done, until that is performed. The removal of the roof-lights is an old and commendable practice, insuring complete rest for the trees and the thorough moistening of the borders by the autumn rains.

Scission Houses.—Trees started in February have the fruit ripe, and in the case of the very early varieties cleared of their crops. As the fruits are removed cut out the shoots that have borne them, and thin the growths where they are so close that the foliage cannot have full exposure to light and air. Cleanse the trees of dust by means of the syringe or engine. Red spider, or any insect pests, must be subdued by the prompt application of an insecticide. Keep the borders thoroughly moist, feeding with liquid manure if the trees have carried heavy crops, are at all weakly, or do not plump the buds. Stop all laterals to one joint on vigorous trees, or allow a little lateral extension if the trees have the buds in an advanced state, this preventing premature ripening of the foliage. When the wood is matured and the buds well formed remove the roof-lights. The exposure to dew and rain has an invigorating effect.

Trees Started in March.—The fruit of the second early and midseason varieties, which only are worth growing for supplies after May under forcing treatment, are taking the last swelling, and should have the leaves drawn aside and the fruit raised by means of laths across the wires of the trellis, so that the apex will be to the light. Inside and outside borders must be watered, and liquid manure supplied until the fruit commences to ripen. A light mulch of lumpy manure will lessen the need of supplies of water, but avoid heavy mulching. Ventilate early, or rather increase it, as a little air on all night is very beneficial, and syringe by 7 A.M., ventilating freely through the day. When the sun loses power in the afternoon, begin to reduce the air, and so as to raise the temperature to 85° or 90°, with a syringing and damping of the surface. This, however, must be done with judgment, for when the sun is powerful and the house closed the water may be heated so as to scorch the leaves, which occurs in span-roofed houses running east and west. Water also hanging for any length of time on the fruit during the last swelling is liable to damage the skin, causing it to crack and imparting a musty flavour; therefore have the fruit dry before nightfall, and in dull weather syringe only in the morning, or damp the floors and borders instead of wetting the trees. Cease syringing directly the fruit commences to ripen, but damp surfaces, especially the borders whenever they become dry, and ventilate rather freely.

Later Houses.—Where rains have fallen so as to moisten the soil thoroughly down to the drainage, watering will not be necessary, but where this has not been the case a thorough watering should be given outside borders as well as the inside, affording liquid manure to trees carrying full crops. The shoots ought to be tied down as they advance, not crowding them, but allowing space for development, as without full exposure to light and air the foliage cannot perform its functions. Stop the laterals at the first joint, and to each succeeding one as made. Cut back gross shoots or remove them altogether. Ventilate early and freely and close early, with plenty of moisture in the house, admitting a little at the top before nightfall, and not keeping constantly dripping with moisture. If needful apply an insecticide, as under no circumstances must red spider, thrips, or aphides be allowed to make headway. Mulch the borders with some partially decayed manure, but not more than an inch or two thick, and lumpy rather than such as when wet will form a soapy mass.

Unheated Houses or Wall Cases.—These structures are generally planted with several varieties in order to produce a long succession of fruit, and consequently have this in various stages. The earliest varieties, such as Alexander, Waterloo, and Early Louise, have the fruit ripening, and must not be syringed, while the second early will soon also require to have the water kept from the fruit. The midseason and late varieties have also about completed the stoning process, and will shortly be taking the last swelling. The trees must be well supplied with water or liquid manure. With plenty of nourishment at the roots, and the foliage disposed so that it can have light from all points, the fruit swells kindly and colours well. Keep the growths thinly disposed, every shoot given a fair share of sun and air. Syringe about 7 A.M., admit a little air constantly, and increase the ventilation with the advancing temperature, having it full at 75°. Syringe again in the afternoon about 5 P.M. If red spider appear subdue it by forcible syringing or the prompt application of an insecticide.

THE KITCHEN GARDEN.

Asparagus.—Although cutting commenced later than usual it ought to cease now. Unless the plants have good time to develop and mature abundance of strong growths they cannot produce shoots next spring. It

is from the buds formed at the base of the stronger growths that the finest shoots will be obtained next season. If, therefore, the clumps develop thickets of growths now, thin them out freely, and those reserved will be all the better for it. Long, strong growths are liable to break down when wet, and these should be roughly supported. Seedlings have come up thickly on established beds, and if all are allowed to remain crowded plants will be the result.

Beans.—Topping Broad Beans hastens the filling of pods, and is the readiest means of getting rid of aphides. A soaking of water is needed by most of the rows, and without this assistance the crops will probably be light and soon over. Where Kidney Beans are in constant demand seed ought to be sown every fortnight, as the plants do not long produce tender young pods. The climbing section, if kept closely gathered from, is more continuous in bearing. Runner Beans have in many districts been much crippled by frosts, only the late-sown rows escaping injury. Stakes ought to be fixed in position before the plants twine about each other. Nothing is gained, and much may be lost by leaving the plants too thickly in the rows. Brace the stakes together with a line of straight stakes taken along 1 foot or so from the tops, or winds will disturb them later. Those to be grown without stakes must be kept closely topped.

Cabbage.—With the prospect of a poor crop of Peas, Spinach, and Cauliflowers before us, everything possible should be done to keep Cabbages growing strongly. Those already cut over may be made to produce a second or even a third supply of tender hearts. Loosen the ground among the plants with forks, if need be, and then either apply liquid manure or sewage water freely, or surface the soil very lightly with nitrate of soda, and wash this in with water. Plants raised at the same time as Broccoli ought to be put out as the ground is cleared of other crops, not forgetting the fact that the best Cabbage is grown on heavily manured land. Sow more seed of Rosette and other Coleworts.

Cauliflowers.—Keep those already established in their final quarters well supplied with moisture at the roots. A good breadth of late raised Autumn Giant put out now may prove of considerable value next autumn for storing in rough pits.

Lettuce.—Transplanting Lettuce during the summer months is not often attended with good results, especially if the ground is comparatively poor. The best course to pursue is to sow seeds every fortnight where a portion of the plants resulting are to develop to their full size. The best Lettuces are grown on ground in which half-decayed manure has been freely dug. The Black-seeded Brown Cos is later in running to seed than the Paris White and Green Cos varieties, and is a most desirable summer and autumn variety. Of the Cabbage varieties the Neapolitan section is the most reliable for present sowing.

Peas.—The late, mildew-resisting sorts, notably No Plus Ultra and Autocrat, may yet be sown. It is useless sowing the seeds on lumpy ground or in drills that have not been previously well moistened. Cover the seeds with not less than 3 inches of fine soil. Many rows of Peas this season will not pay for staking, and as a matter of fact will give better crops if the haulm rests naturally on the ground. If watering is attempted let it be thorough. Draw the soil up on each side of the row so as to form a trough, and fill this with water or liquid manure. A heavy mulching of strawy manure helps to conserve the moisture in the ground.

THE BEE-KEEPER.

INCREASE OF STOCKS.

THERE are several ways of increasing the number of stocks in the apiary. If this is the sole object the bees may be allowed to swarm at will, but if to increase it is desired to add a surplus of honey they must be worked on different lines. In a favourable season it is possible to double the number of stocks in an apiary and also obtain a rich harvest of honey. Arrangements, however, must be made early in the season, either by feeding or uncapping sealed stores, which will have the effect of causing the bees to increase at a rapid rate.

As soon as the hives are crowded with bees select the strongest stocks for honey production. These should be supered, and if from any cause the requisite number of colonies for honey production is not of the desired strength add bees from the other stocks intended for increase as recommended in previous notes on doubling. Removing bees or brood, which really amounts to the same thing, from a colony intended for increase will not seriously affect it. All the difference it will make is that queen rearing will be delayed a few days until the colony has increased in strength.

The next few weeks will be a suitable time to divide colonies until the required number is obtained. The queens will thus become fertilised, and nuclei formed during the fine bright days of summer.

If half the stocks have been devoted to honey production, each of the remaining colonies will make two strong stocks of sufficient strength for successful wintering, without the addition of more bees. If more stocks are required extra nuclei hives must be formed. These small stocks should be strengthened by adding a stock of driven bees in the autumn. If these cannot be procured the weak stocks may be assisted by a couple of frames of brood and adhering bees from a colony that has been worked for honey production.

A moderate increase of stocks is much better than attempting to increase at a too rapid rate, as it is a well known fact that colonies which are headed by an active fertile queen, and are crowded with bees in the autumn, invariably come out strongest the following spring. Stocks should therefore always be provided with sufficient bees before the cold weather sets in. This may be done if stocks are not divided too much at this season.

REARING QUEENS.

Queen rearing should go hand in hand with the increase of stocks. This is a matter that must not be left to chance, and if worked on the right lines little time will be lost, as the majority of the old queens need not be removed from their hives until the day the young queens are ready to come out of their cells. This means an addition of several thousand bees, which will hatch-out at a most important time, when the young queen has commenced to lay.

The plan we practise and recommend is to select two or more of the strongest colonies, remove the queen and a couple of frames of brood, which will hatch within a few days, and the adhering bees, placing them in a separate hive, with a fully drawn out comb on each side. The division board is drawn up close, and they are covered up warm. If there are not sufficient bees to cover the brood, shake them off another frame from the parent stock. The queen will thus continue laying for another fortnight, and as the same thing will happen in those stocks from which the queens have not been removed, it will be readily seen what advantage it is to the bee-keeper not to destroy any of the queens until the young ones are ready to take their place.

Returning to the hive from which the queen has been removed, select the combs in which are newly laid eggs. If the eggs are in the centre of the comb, cut a few holes about half an inch in diameter through the comb with the point of a knife; also notch the bottom of the comb from each of the perforations. Thus made queen cells will be formed. Young queens will hatch-out on the sixteenth day. Previous to that, about the fourteenth day, the queen cells should be cut out and fastened in a frame containing brood. The old queens may then be removed, and the stocks divided into as many as are required.—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," S. Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Lopping Branches from Old Oak Trees (O. F.).—By removing the large overhanging branches now you would greatly interfere with the after-growth, as the foliage practically determines the amount of stored matter and growth in the following season. But as you do not require growth in the Oaks, but rather in the trees or shrubs they overgrow, we should partially trim in the branches now to admit some light to the other stock without unduly exposing them to the direct solar rays, but defer cutting back fully until the autumn, or if the Oaks afford some shelter postponing the pruning until the early spring. This would give both a chance, as very little growth would accrue from lopping now, though some would be advantageous as regards the formation of buds for development another year.

Leaving off Box of Lawn Mower (Scotland).—The grass is probably too long, hence throwing the cut parts so thickly together as to clog the machine. When the grass is thin or only long ends here and there, no difficulty is experienced; but why not set the machine a little higher, so as only to remove the long bents during dry weather? By long is meant the irregularities of growth which appear between the ordinary times of mowing.

Scots Firs Suddenly Dying (N.B.).—Perhaps the trees are affected by some fungus at the roots, or suffer from some animal parasite. In the absence of specimens or particulars we are placed at a great disadvantage. The trees are about the age when they suffer from attack of the fungus called *Peridermium pini*; it rarely attacks trees over twenty years old. Decide whether the tops or the roots are affected, and if specimens of these are submitted to us they will be carefully examined and reported on.

Climbers in Pots (Amateur Reader).—Various climbing plants, especially, perhaps, the large-flowered Clematises, may be well grown in large pots or tubs, the growths being trained to wire trellises, balloon-shaped or oval in form, and of any required size; or the plants can be secured to stakes inserted round, just inside the rims of the receptacles, looping the tops of the stakes together with wire to form a rigid framework. The plants require careful attention to prevent a straggling appearance.

Dividing Primula obconica (Somerset).—As the plants will now have completed flowering, or mainly so, for the season, it is a good time to divide them, putting the divisions carefully in small pots or such size as will just hold the roots. Use a compost of turfy loam with a third of leaf mould and a free admixture of sand—a little charcoal is an advantage—and provide good drainage. Place in a cold frame and keep them shaded until re-established. You are no doubt aware that the plant is very irritating to some persons, causing blisters on the hands, hence the precaution to use gloves in such cases in handling the plants.

Rooting Sweet Briar Cuttings (Idem).—The cuttings of well ripened wood should be inserted in September, cutting them transversely below a joint, trimming off the leaves from at least two joints, and inserting that part in the soil, preferably sandy, making it firm about them. If the cuttings have one or two joints with leaves above the soil it suffices. A north border is the best, or an east or west one answers, only if bright weather prevail it is advisable to shade from powerful sun. Cuttings with a heel may be inserted as late as October, when, of course, shading is not needed. The Sweet Briar, however, is usually raised from seeds, which are sown as soon as ripe, or more generally kept in the "heps" until spring. This practice we have followed extensively for raising plants for game coverts, woodland walks, and for hedges. Some of the seedlings appear the first year; these may be carefully lifted and transplanted in the autumn, leaving the bed for another season, as many appear in the second year. The seedlings are by far the better for vigour and general purposes.

American Blight on Apple Trees (York).—The white woolly or cottony growth is due to American blight, or woolly aphid, which is known scientifically as *Schizoneura lanigera*. You do not say whether the trees are large or small. If dwarfs and readily reached the simplest method is to apply methylated spirit, using a clean half-worn painter's sash tool, just moistened with the spirit, reaching every part of the tree. This continued through the summer as the white spots appear has proved thoroughly effectual, and is handy and clean for an amateur to use. On a large scale we have found ammoniacal liquor from gasworks diluted with twelve times its bulk of rain or soft water and applied forcibly with a syringe or engine, especially to the stems so as to drive the insects out, very effective, but the liquor sometimes browns tender foliage. It also has the advantage of acting as manure, and of killing any of the pests lurking on the roots within the soil. For use in winter gas liquor, one part in five parts water, may be applied with a brush as soon as all the leaves have fallen, and if the roots are affected they may be bared and dressed similarly to the trunk and branches. This, however, is not often necessary, as the liquor from the stem passes into the soil, acting as manure and killing the pests.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*W. C. & Sons*).—*Dracunculus vulgaris*, also known as *Arum Dracunculoides*. (*E. N. R.*).—1, *Campanula glomerata*; 2, *Scabiosa caucasica*; 3, *Polemonium Richardsoni*; 4, *Dictamnus Fraxinella*; 5, *Asphodelus ramosus*. (*W. S.*).—1, *Crinum capense*; 2, *Habrothamnus elegans*; 3, *Alströméria aurantiaca*; 4, *Euonymus radicans variegata*. (*P. S.*).—1, a poor form of *Cattleya Mossiae*; 2, *Odontoglossum citreolum*, in excellent condition. (*Ignoramus*).—1, *Spiraea ulmaria*; 2, *Tradescantia virginica*; 3, *Eremurus hialicaeus*; 4, *Gladiolus byzantinus*; 5, *Lilium martagon*. (*S. N.*).—Specimen retained from last issue, No. 4, *Strobilanthes isophyllus*.

COVENT GARDEN MARKET.—JULY 5TH.

AVERAGE WHOLESALE PRICES.—FRUIT.—Markets good.

	s. d.	s. d.		s. d.	s. d.
Apricots, per box ...	1 0	1 6	Grapes, black ...	1 0	3 0
Apples, Tasmanian, case ...	18 0	20 0	Lemons, case ...	14 0	36 0
Cherries, $\frac{1}{2}$ sieve ...	6 0	10 0	Melons ...	1 0	8 0
cooking, sieve of ...			Nectarines, per doz. ...	8 0	12 0
24 lbs. ...	6 0	8 0	Peaches, per doz. ...	8 0	15 0
Currants, red, bkt. of about ...	2 6	3 6	Pines, St. Michael's, each ...	3 0	8 0
8 lbs. ...	3 0	6 0	Plums, per box ...	1 6	2 0
Figs, green, per doz. ...	2 9	0 0	Raspberries, doz. punnets ...	12 0	18 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 6	Strawberries, outdoor, bkt. ...	0 6	0 10
Greengages, box of 40 to 48 ...			peck ...	3 0	6 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.—Markets fair.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 0	2 0	Lettuce, doz. ...	1 8	0 0
Asparagus, per 100 ...	1 0	3 6	Mushrooms, lb. ...	0 6	1 0
Beans, per lb. ...	0 3	0 6	Mustard and Cress, punnet ...	0 2	0 0
Longpods, $\frac{1}{2}$ bushel ...	1 6	2 0	Onions, bag, about 1 cwt. ...	5 6	0 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bunches ...	2 0	6 0
Cabbages, per tally ...	7 0	0 0	Peas, per bushel ...	2 0	4 0
Carrots, bunch ...	0 6	0 0	Potatoes, cwt. ...	2 0	6 0
Cauliflowers, doz. ...	2 0	4 0	new ...	9 0	11 0
Celery, new, per bundle ...	1 9	0 0	Shallots, lb. ...	0 8	0 6
Cucumbers ...	0 4	2 0	Spinach, per bushel ...	2 6	4 0
Endive, doz. ...	1 8	1 6	Tomatoes, lb. ...	0 4	0 6
Herbs, bunch ...	0 8	0 0	Turnips, bunch ...	0 8	0 4
Leeks, bunch ...	0 2	0 0	Vegetable Marrows, doz. ...	5 0	6 0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bunches ...	1 6	2 0	Lily of the Valley, 12 sprays ...	0 4	1 0
Arums ...	3 0	4 0	Marguerites, doz. bnchs. ...	3 0	4 0
Asparagus, Fern, bunch ...	2 0	2 6	Maidenhair Fern, doz. ...		
Azalea, white, doz. bnchs. ...	8 0	4 0	bnchs. ...	4 0	6 0
Carnations, 12 blooms ...	1 6	3 0	Mignonette, doz. bunches ...	4 0	6 0
Daffodils, single yellow, ...			Narcissus, doz. bnchs. ...	1 0	2 0
bch. 12 blooms ...	0 6	0 8	Orchids, var., doz. blooms ...	1 6	9 0
Daffodils, double, bunches ...	0 4	0 6	Pelargoniums, doz. bnchs. ...	4 0	6 0
Eucharis, doz. ...	2 0	3 0	Paeonies, doz. bnchs. ...	4 0	8 0
Freesia, doz. bnchs. ...	2 0	3 0	Roses (indoor), doz. ...	2 0	8 0
Gardenias, doz. ...	1 0	2 0	Red, doz. ...	2 0	4 0
Geranium, scarlet, doz. ...			Tea, white, doz. ...	2 0	8 0
bnchs. ...	4 0	6 0	Yellow, doz. (Perles) ...	2 0	8 0
Hyacinths, Roman, bunch ...	0 4	0 6	Safrano, doz. ...	2 0	2 6
Iris, per doz. bunches ...	6 0	12 0	Smilax, bunch ...	8 0	4 0
Lilium Harrisii, 12 blooms ...	8 0	4 0	Tulips, bunch ...	0 4	0 6
longiflorum, 12 blooms ...	4 0	6 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vite, var., doz. ...	6 0	to 8 0	Foliage plants, var., each ...	1 0	to 5 0
Aspidistra, doz. ...	18 0	8 0	Fuchsias, doz. ...	4 0	6 0
Aspidistra, specimen ...	5 0	10 6	Heliotropes, doz. ...	4 0	6 0
Boronia ...	12 0	18 0	Hydrangeas ...	6 0	10 0
Orotans, doz. ...	18 0	24 0	Lilium Harrisii, doz. ...	12 0	18 0
Dracena, var., doz. ...	12 0	80 0	Lycopodiums, doz. ...	3 0	4 0
Dracena viridula, doz. ...	9 0	18 0	Marguerite Daisy, doz. ...	6 0	8 0
Erica various, doz. ...	9 0	24 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	specimens ...	21 0	68 0
Ferns, var., doz. ...	4 0	18 0	Pelargoniums, scarlet, doz. ...	4 0	6 0
small, 100 ...	4 0	8 0	Solanums, doz. ...	6 0	12 0
Ficus elastica, each ...	1 0	7 0	Stocks ...	4 0	6 0

Bedding out plants in variety from 8s. doz.



MAIDSTONE, 1899.

KENT, the garden of England; the land of nightingale, Cherry, and Hop; the land rendered classical by the great Julius Cæsar, by the pens of Chaucer, Dickens, Austin, and "D., Deal"; the home of early Christianity; the seat of the chief of our Lord Archbishops; the shrine of the great A'Beckett, celebrated in jingling rhyme by the witty Barham of Ingoldsby fame! What countless memories the name suggests!

Readers of the Journal will possibly think we mean to dwell on and describe some of the great men of to-day, the giants of the gardening world who have pitched their tents in Kent and give to civilisation their fruit trees by the million. It is not of them we speak, that theme must be left to an abler pen. We can only touch on the subject we are acquainted with, and we only want to make a few remarks on the Royal Show of 1899. A postponed show it is. That dreaded scourge of mankind, typhoid, caused such ravages in Maidstone in 1897-8, that it was considered advisable to give the authorities a year in which to prepare a clean bill of health before calling together the throng of people who go to making a show a success. Birmingham

took the place of Maidstone for the year 1898, but now Maidstone, purified and wholesome, has claimed her turn.

The site for the show was well chosen. Mote Park, with its 400 acres, well wooded and watered, is an ideal situation, and to those who wanted a day's outing in a beautiful country, irrespective of agriculture, there was every attraction. From a financial point of view we cannot say so much. Set just in a corner of England with not particularly good railway facilities, it cannot be surprising that the entries were not so large as usual.

It is a long cry from the great horse-breeding districts of Yorkshire and Lincolnshire to Kent, and good horses are too valuable to be subjected to over-much cross-country railway travelling. Then too, except for London, there is no great population near Maidstone, and Londoners as a body do not care much for agricultural shows. We heard of parties leaving London by quick train at 6.30 A.M. and reaching Maidstone at 10. It would require ardent sightseers to do that twice.

Our Gallic neighbours, however, took advantage of their opportunities and came across the silver sea in considerable numbers. We wonder what pleased them most, and what impressions they took back with them. Naturally the horse rings came in for a great amount of attention, but the exhibits were not of native production. Kent is not a horsey county. It has its specialities, but they take the form of Hops and the Sussex breed of cattle. All the old names are represented, and the judges are picked men. Of course the verdicts were not entirely popular, but that would not be possible.

One would hardly expect to see many Cleveland bays so far from home, and possibly they were quite novelties to the good folk of Kent. Hackneys they would better understand. It is not a far cry to Sir Walter Gilbey and Elsenham. It is amusing to see how the majority of the hackney sires hail from Yorkshire, that grand old county for horse breeders.

The pretty little ponies, too, of all classes came in for their share of admiration. These horses in miniature are so perfect, and look such charming playfellows for their small owners. The polo section is of modern invention; they are quite a class to themselves, they must be as nimble as cats, and controllable with the proverbial silken thread.

After the hunters we always admire most the harness classes. What is so pleasant as a good well stepping nag in the hands of a capable driver? What pleasant jaunts one pictures through sweet smelling country lanes. There is no mode of progression so charming, and there is pleasure to be had equally much in an unpretentious dog cart as on the box seat of his grace's coach—that is, provided that the horseflesh is of the right sort.

Large in bulk and in goodly numbers of grand quality came the Shires. No motor car interferes with their work yet. We cannot do without our working horses, whatever we may do with our pleasure horses. We may walk instead of drive, cycle instead of hunt, but we must till our land and convey our produce to market or station by horse power. After seeing these grand animals at a Royal Show, the man is surely blind to his own interests who returns home and uses, without fear of consequence, the wretched sires which are so often found travelling the country.

That the Shire Horse Society has done, and is doing, a great work we speak confidently; long may it prosper, and it will prosper, for the right set of men have taken the thing up, and will not let it drop until it has fulfilled its mission. Clydesdales and Suffolks take a back seat where the Shires come in; they have their partisans, and are popular in their own counties.

To most of us the Shorthorn and Jersey rings present the greatest attractions in the cattle section. We cannot quite understand why the Shorthorn Judges could not get on without a third party. We thought those two men, Messrs. Hutchinson and Stratton, knew all there was to know about Shorthorns, but we suppose it was the nicety of their judgment made them anxious for a third opinion.

The Channel Islands will always secure their full meed of admiration, they are so pretty in themselves, and produce such thick delicious cream, and such hard firm butter; beside, too, they were, comparatively speaking, on their own grounds, for no doubt, however acclimatised they may be, the southern counties suit them best.

The Herefords and Devons always look so calm and placid; you think of pleasant meadows, with slow flowing streams and big Elms and general contentment. Here, in Kent, the old Sussex "Cherry-reds" made a grand display. Originally draught oxen, they have been improved and refined till they have reached a high point of excellence. These are the principal breeds. Time fails to tell of the others, all good and valuable, and suited to their own particular districts. Only seventeen classes for sheep! Did you, kind reader, ever realise there were so many British varieties whence to draw your supplies of mutton and woollen garments?

You might almost think yourself in Lincoln at the April fair, so many well-known Lincoln breeders around—men who are known throughout the civilised world—men who have woolly representatives across every sea—men who have made English agriculture what it is. For our own eating we prefer some of the Down crosses, the mutton

is smaller and the fat less apparent. One would think there was no need for New Zealand mutton or lamb after seeing the exhibits at a Royal show.

The show yard is a little world, and when all the live stock is inspected how many days' work is there in the implement sheds, the stands of the great seed growers, the dairy appliances, the artificial food and tillage exhibits, and the 1001 sights of more or less interest that surround the beholder on every side? A week seems hardly long enough. It is with difficulty one tears oneself away from the working dairy, to spare the time for a glance at Mr. Ed. Brown and his poultry; to see the bee driving; to hear the clink of the hammer of the Harmonious Blacksmith; to attend the veterinary lecture; to be present at some of the many meetings of the various Societies. A man has to be made of iron to get all in, and we fancy many will consider the week of the Royal Show presents the hardest work of the whole year, with a good bit of pleasure thrown in.

WORK ON THE HOME FARM.

A visit of a few days to a friend has given us the chance to inspect the farming of another neighbourhood, with its different methods and conditions of cultivation. The fields are not absolutely strange to us, but it is many years since we saw them, and we find great changes. Barley and Oats are very largely grown, the latter having, to a great extent, usurped the place of Wheat. The few fields of Wheat which we see, however, are looking splendid, and much better than the Oats. Barleys look almost too well in many cases, and will not stand much rain in the future; as the soil is light and sandy this speaks well for the several occupiers.

Potatoes look well but are not yet earthed, not because they are not high enough, but on account of the pressure of other work; the wet weather in May postponed the Turnip sowing, and the necessity to get the root crop started has caused other work to be put aside as long as possible. The Swedes have come up wonderfully well and regularly; there are no signs of fly, and the farmer's complaint now (and he must have one of some sort) is that they will come to the hoe more quickly than is convenient.

With his Potatoes to earth, a few more Turnips to sow, Clover and hay to cut and harvest and Swedes crying out for attention, there does not appear much prospect of leisure for the farmer at present, but his crops look well all round, and as regards the particular district referred to he has ample reason to be satisfied.

He has the usual complaints to make about scarcity of labour, of its tendency to increase in price and decrease in efficiency; nevertheless he has no great belief in the value of self-binders, thinking that they are necessary evils, and to be used more to overawe the men than for any real direct benefit, and only to be brought from the shed when men cannot be had. He is full of anecdotes of disaster to string-bound sheaves in wet weather, and no doubt he has some sound reason for his prejudice, for what may suit some people and conditions may be of little use to others.

The verdict as to the spring tooth cultivator is a very different one. Enthusiasm is the only word to describe it. Everywhere it has superseded the old-fashioned D'Arcy & Bental drag, and the latter could hardly be found now, except in the blacksmith's rubbish heap.

Peas for pulling are a staple crop, and the harvest is commencing. Women with their children earn large sums by the pulling, which is paid for at the rate of 1s. to 1s. 6d. per 8 stone bag according to the abundance of the crop, which may vary from forty to 100 bags per acre. Eclipse is a variety largely grown, and is the one ready for market now.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1899. June and July.	Barometer at 59° and Sea Level	Hygrometer		Direction of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.			
		Dry.	Wet.			Max.	Min.	In Sun	On Grass		
Sunday	25	30.183	deg. 60.4	deg. 58.6	N. W.	deg. 60.8	deg. 70.9	deg. 49.8	deg. 106.9	deg. 45.3	inches. 0.010
Monday	26	30.213	70.9	65.3	W.	60.8	84.6	55.9	134.6	54.8	—
Tuesday	27	30.331	70.6	63.9	N.	63.5	74.9	61.7	118.2	57.4	—
Wednesday	28	30.084	64.9	56.8	E.	62.8	77.1	62.4	117.7	48.2	0.089
Thursday	29	29.817	65.9	59.3	N. W.	62.9	77.8	58.3	126.1	56.4	—
Friday	30	29.982	64.7	55.6	W.	63.7	75.1	51.5	123.6	46.9	0.918
Saturday	1	29.534	60.2	57.1	W.	63.2	70.0	53.9	121.5	54.3	0.220
		30.021	65.4	58.8		62.5	75.8	55.2	121.2	51.8	1.237

25th.—Overcast day, with occasional slight rain.

26th.—Sunny and warm; rather close in morning.

27th.—Sunny early, and at times after; much heavy cloud during the day.

28th.—Cloud and sunshine during the day, and spots of rain once or twice; thunder storms in evening (not near).

29th.—Generally bright and sunny, but cloudy at times.

30th.—Sunny morning; generally cloudy from noon; rain from 7 P.M. to midnight.

1st.—Rainy till 4.30 A.M., and thunder storm with heavy rain at 3 A.M.; windy day with showers, and bright sun at times.

A fine warm week, with a thunder storm in the early hours of July 1st.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, JULY 13, 1899.

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NEW PLANT BREEDING.

By F. W. BURBIDGE, M.A., V.M.H.

PLANT breeding in all its phases is a holy and beautiful mystery, the marriage of the flowers; the results gained at present are marvellous, and the potential possibilities of hybridism and of cross-breeding are well nigh incomprehensible.

The ancient Hebrew and Egyptian alike observed that cross-fertilisation was necessary in the case of the Fig and the Date Palm fully 2000 years ago. In England Bradley (1717) and Fairchild (1722) observed that Tulips, Pinks, and other flowers were bisexual, and to Fairchild is credited the very earliest garden hybrid reared in English gardens—viz., "Fairchild's Mule Pink," which he raised in his garden at Hoxton prior to 1805 by the crossing of a Carnation and the common Sweetwilliam.

On the Continent Kölreuter was the first to rear hybrids between different species of Nicotiana, Hyoscyamus, Matthiola, Dianthus, and Verbascum. C. K. Sprengel was the first to observe the fertilisation of Orchid flowers by insects some time prior to 1793.

In England Miller, T. A. Knight, and Dean Herbert were pioneers in the new movement, and their writings and example drew on a willing army of practical workers in what was then a new field.

Nowadays we look on hybridising species, and even genera, as a mere matter of course, but half a century ago even cross-breeding was a process to be conducted in secret, and the results then gained were often concealed under Latin specific names. This was especially the case with the earliest hybrids of such genera as Cineraria, Calceolaria, Gloxinia, Gladiolus, Pelargonium, and Erica, with the result that the parentage, seldom if ever then revealed, is now quite lost. Although from the very first it was self-evident that man could only assist the functions of plant life in Nature; he can only do in the garden what is often possible to Nature in the field or the forest; yet the act of cross-breeding the plants was looked on as almost impious half a century ago. We now know that

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"the art itself is Nature," and man is merely doing consciously precisely what the wind, or the bee, or the flies have done unconsciously for countless centuries of time.

So we see that up to fifty or sixty years ago or so careful selection and good culture were the main factors in the improvement of garden plants. Now the incalculable influence of cross-fertilisation in obtaining variation, and isolation and self-fertilisation in the fixing of special races or strains, are recognised principles in our everyday practice.

When Darwin, after collating and studying the results obtained by gardeners and stock-keepers, published his "Origin of Species" in 1859, a new era dawned, and we now know that cross-fertilisation and hybridism lie at the bottom of all onward and upward progress in garden and field crops of all kinds.

Let us try to imagine our gardens to-day as stripped bare of all hybrid or cross-bred vegetation. They would be like deserts—all our finest of fruits, vegetables, and a large proportion of our most showy and beautiful flowers would be gone. We should have to begin over again with the so-called "wild species," many of which are also hybrids from Nature's workshop, and spend another half-century or more in working hard, and in weary waiting for the results that are ours to-day.

Not only have old garden races or strains been improved, but we have new races evolved in our own time. Some of us are not too old to remember the first hybrid Orchids and *Nepenthes* of Dominy raised at Exeter. The dwarf-flowering *Cannas* of Crozy, the *Nymphæas* of Marliac, the tuberous-rooted *Begonia* of Veitch, *Streptocarpus*, the berried *Pernettyas* of Davis, all the hybrid and bigeneric Orchids, *Nepenthes*, greenhouse *Rhododendra*, *Chrysanthemums*, *Amaryllis*, *Gladioli*, *Irises*, and last but not least the *Delphiniums* and the French *Pæonies*. In the solitary genus of *Narcissus* alone it is not too much to say that Herbert, Leeds, Backhouse, Horsfield, and Engleheart have made our spring gardens doubly and trebly more bright and interesting by their beautiful creations.

As the works of Darwin turned the complicated network of rills and rivers of thought into one clear and deep and straight cut channel, so also we already may catch glimpses of how subtly but surely the art of the hybridist is influencing current events, and how gradually, but none the less surely, he is doing the work of the plant collector abroad here in his glass-roofed and coal-heated laboratories at home.

In a word, beautiful new species, and even new genera, of plants can now be made as surely, or even more so, than they can be discovered in their native wilds. The Black Raspberries, raised between the Blackberry and the Raspberry, are perhaps more curious than profitable, but Mr. L. Burbank, and other raisers in America and California, have added many serviceable new fruits to American gardens, just as T. A. Knight and Messrs. Rivers, Laxton, and other raisers did long ago to our own.

There is one great advantage possessed by man in the garden over Nature—viz., Nature isolates her species; but in our gardens and greenhouses we can group or focus them together, and so it often becomes possible by this close proximity to rear hybrids in gardens that would be impossible in a state of nature. Another point is that in the garden suitable hybrids are carefully preserved and cultivated; and so also in nature, it is only the most suitable, i.e., the strongest or most adaptable, that live on and exist beside the so-called wild species.

On the other hand, Nature, by isolating her species for long periods, or by growing them under very diverse conditions, has so far fixed some of them that the hybridist cannot break through her lines. No hybrid has so far, I believe, been raised from *Richardia æthiopica*, and though amongst Orchids some distinct looking genera, like *Cattleya* and *Sophranitis*, or *Cattleya* and *Brassavola*, yield bigeners, still there are some species of the same genera that so far refuse to hybridise with each other.

The Persian *Cyclamen* does not appear to have ever been hybridised, nor can one well imagine what augmentation of beauty,

colour, form, or variety could have been gained that careful cross-fertilisation and rigid selection has not already secured. Why the *Cyclamen* has varied so much, and such popular plants as *Eucharis*, *Richardia*, and *Vallota* have in the main defied the cross-breeder, is a question to which as yet there seems no reply.

Every rule may have an exception, and so has *Eucharis*, the hybrid *Urceocharis Clibrani* (*Eucharis* × *Urosolina*) being one of the most distinct and beautiful bigeners ever raised (fig. 13, page 39). To the same category belong *Philageria Veitchi* (*Philesia* × *Lapageria*) and Orchid bigeners of many kinds. There is also a hybrid between *Vallota* and *Gastronema*.

In practical cross-breeding the great axiom, "Nature does, or may do, everything *sometimes*," should be ever in one's mind. You may fail often and succeed at last. "One thing is sought for and another is found," says Don Quixote, and although much has been done already, there are potentialities innumerable among our farm, field, and garden plants of to-day, and no earnest and patient worker in this gentle art will long go unrewarded.

I believe M. Bary Latour Marliac raised seedling *Nymphæas* for ten years between *N. odorata rosea* and *N. candidissima* before his lovely rosy forms appeared. As a rule flowers and vegetables are not nearly so long in showing newly acquired characters, but those who rear seedling fruit trees must possess patience as well as industry.

I believe Mr. Davis, who raised the many hued berried *Pernettyas* at Hillsborough, in Co. Down, Ireland, had to wait even longer than M. Marliac for his best results, and so it is and may be in other cases, but the reward is sure.

All the best and wisest can do in this fascinating game with Nature is to use clear judgment in the selection of suitable parents, and to cross reciprocally—i.e., transfer the pollen of each or both parents, if bi-sexual, to the receptive stigmas of the other. You apply the pollen under the most congenial conditions possible, and Nature does the rest. "If she will she will, and you may depend on't; but if she won't she won't, and there's an end on't."

Keep on crossing, and so multiply your chances; and "if at first you don't succeed—try, try, and try again." Scientifically hybridism and cross-breeding lie at the root of evolution—i.e., adaptation—in the garden, and all our modern studies of plant life go to prove that Nature is ever anxious to make plants better adapted to the many and varied conditions in which they live; and the gardener not only tries for this result also, but he has an eye on those that afford him the most acceptable produce as well.

[To illustrate Mr. Burbidge's instructive and interesting remarks, and to show the results of cross fertilisation and hybridisation, we are giving a series of woodcuts, under each of which is given an explanatory inscription. The *Begonia*, *Calceolaria* (for which we are indebted to Messrs. J. S. Virtue & Co.), and *Cyclamen* must demonstrate the progress that has been made, not only in the flowers depicted, but also in others mentioned by our talented contributor.]

THE INTERNATIONAL CONFERENCE ON HYBRIDISATION.

CHISWICK.—JULY 11TH.

SEEING how important a person in the economy of Nature the hybridiser is, and how materially the exercise of his art has helped in the evolution of the gorgeous flowers and luscious fruits which are now at the disposal of the cultivator, it is only in the fitness of things that our chief horticultural society should seek to acknowledge the value of the work thus accomplished, and give to the public as far as possible details of the methods that have revolutionised modern horticulture. A Conference at Chiswick is sufficiently rare to provoke interest from that reason alone, but with such a subject as hybridisation and cross-breeding the interest becomes tenfold. The Society did wisely in sending invitations to many foreign celebrities, thus giving to the gathering a true international status. The list of papers announced for the first day covered a wide range, and fine weather alone was needed to complete matters. This, it is satisfactory to say, prevailed, for it was a typical July day, and the only grumbles heard were against the intense heat.

The Conference took place in a commodious tent, and here, when the side canvas had been partially removed, the conditions of temperature were bearable, and even pleasant, which, by the way, could not be said of the large vinery, wherein the unfortunate exhibits were stewing.

Dr. Masters took the chair at 2.30 P.M., and despite the heat there were signs of plenty of animation in the large gathering, waiting for proceedings to commence.

THE CHAIRMAN'S OPENING SPEECH.

After expressing the pleasure given by the presence among them that day of friends from across the sea, Dr. Masters said that he thought it was their bounden duty to thank the Council of the Royal Horticultural Society for affording the opportunity of discussing one of the most important subjects in modern progressive, experimental horticulture. He laid stress upon the word "experimental," because he believed that the future of horticulture depended very largely upon well directed experiment. As far as practical cultivation went we were not very much in advance of our forefathers, but we had better tools to work with, and therefore were able to produce better results. For many years past new plants had been eagerly sought after, but nowadays new plants, with the exception of Orchids, were comparatively few, for by far the greater part of the earth's floral treasures had been discovered and turned to account. The new plants of the present day were, as a rule, called into being by the hybridist and the cross-breeder. Dr. Masters then briefly reviewed the rise and progress of hybridisation as a recognised art, from the days when the sexuality of plants was first discussed. The work of Camerarius, Millington, Grew, and Morland was touched upon.

In 1760 Kolreuter began a series of elaborate experiments, but as these were made with no practical aim they were fruitless. Years after the then President of the R.H.S., Mr. Thomas Andrew Knight, and Dean Herbert took up the work. The labours of Gärtner, Naudin, Nägeli, Millardet, Lord Penzance, and Engelheart formed a fitting succession to those of the earlier enthusiasts. Darwin's researches and experiments in cross-fertilisation came as a revelation to many practical experimenters, and since Darwin's day much had been accomplished. Allusion was made to the curious and mistaken prejudice that has existed in the past against the extension of hybridisation on the part of some botanists. It was not wonderful, perhaps, that these gentlemen should have objected to the inconvenience and confusion into which their systems of classification were thrown by the introduction of hybrids and mongrels. This misconception had now been removed, and it was generally acknowledged that it lay in the power of the hybridiser and cross-breeder to furnish us with much information as to the affinities of the plants they dealt with—information that would greatly assist botanical science in coming to some conclusion as to the exact status of a species, and the relation of one species to another.

HYBRIDISATION AND CROSS-BREEDING AS A METHOD OF SCIENTIFIC INVESTIGATION.

This phase of the subject was dealt with appropriately enough in the first lecture by Mr. Bateson, M.A., F.R.S., of Cambridge. Mr. Bateson proceeded without ceremony to disclaim the possession of any botanical knowledge whatever on his own part. He had never raised a plant hybrid himself, but as a zoologist he had been impressed with the vastness of the field which hybridisation offered for research. Although the field was so vast, however, the methods of research were simple; there was plenty of material ready to hand, and it was comparatively easy to do something. On the other hand, if this "something" was to be of value, great patience and labour, as well as careful elaboration of plans were necessary. With regard to the aims that actuated the cross-breeder, the first was to bring light to bear on the problem of species. No one could yet define what a species was, and yet the phenomenon of species was a very real one. Some groups of plants were not sharply defined the one from the other, but there were hundreds that were. It was for the cross-breeder to determine, not only what species were, but also how they originated. The generally accepted view was that they originated by the accumulation of small differences, by the segregation of offspring of the same parents, and by the survival of those that were fittest to bear the struggle of life. It was easy, continued Mr. Bateson, in his forcible way, to state this in a general way as a general thesis, but to apply the statement to a single case was a harder matter—in other words, the general proposition was clear, but the specific proposition was beset with difficulties. Then, again, there was the problem of how far cross-breeding had the effect of "swamping out" the small initial variations in the plants operated upon. Revolution rather than evolution had taken place of late years in the ranks of such races as the Narcissus and the Begonias, and varieties were continually coming into existence whose differences were specific. Discontinuity of variation was a common phenomenon, and although variations might not make themselves apparent in the first generation they usually did in the second or the third.

HYBRID ANTHURIUMS.

A little surprise was in store when Monsieur de la Devansaye was called upon to read a paper on Hybrid Anthuriums, as his name did not appear upon the schedule. M. de la Devansaye very briefly gave his experiences in dealing with this genus of beautiful plants which he has done so much to improve. The two rules commonly accepted in cross-breeding were (1) that in most species results could only be obtained when pollen of the same species was taken from a different plant to that of the seed-bearing parent; (2) that *Spathiphyllum* crossed

with pollen of *Anthurium* yields a progeny variegated in flowers and foliage. Plants with variegated flowers were more vigorous than the parents, but the reverse was the case with plants having variegated leaves. To the two rules mentioned M. de la Devansaye added a third, that as after many years' experience he had found that the second and third generations exhibited variations not apparent in the first, it was an error to destroy apparently unaffected progeny of the first generation; very seldom was any variation produced immediately, whilst in the second generation 50 per cent. would give a change, in the third generation 75 per cent., and in the fourth 80 to 85 per cent. 1

HYBRIDISATION AS A MEANS OF PANGENETIC INFECTION.

The task of dealing with this somewhat cryptic branch of the subject was assigned to the capable hands of Professor Hugo de Vries of Amsterdam. In his opening remarks the Professor gave further weight to the law of discontinuity of variation, of which the previous lecturers had spoken. A hybrid might thus be as stable as a normal species. Passing to the consideration of pangenesis as spoken of by Darwin, he instanced *Dipsacus fullonum*, and *D. sylvestris*, the twisted stems having appeared in both species, although they were separated by several hundred yards. He believed that the existence of the smooth form of *Lychnis vespertina* was due to the pangenetic influence of *L. diurna*. The offspring of a cross between *L. diurna* and *L. v. glabra* flowered and seeded freely. In the first generation all the plants were uniform, all being hairy, and of the type of *L. diurna*. In the second generation he had found only two-thirds of them hairy, and they were furthermore divided into broad-leaved forms resembling *L. diurna*, and narrow-leaved forms, bearing a likeness to *L. vespertina*. The professor then described at some length the method he had followed to artificially produce *L. d. glabra*, and he claimed that he had thus succeeded in transferring the pangenesis of latent hairiness, from one species to the other.

HYBRIDISATION AND ITS FAILURES.

Professor Henslow commenced his lecture upon the failures of hybridisation by asking what he averred was an unanswerable question:—"Why do some species cross and give fertile offspring, and others refuse to do so?" This question, unanswerable as it was, lay at the bottom of all practical work. Speaking of that moot point, What constitutes a species? the reverend gentleman gave as his definition that "a species is known by a collection of presumably constant characters taken from all parts of the plant." It was not settled, he went on to say, how many characters went to make up a species, and here arose the difference between the Linnæan and the natural systems of classification. In the case of the two natural orders Liliaceæ and Amaryllidaceæ one difference, that of the superior ovary of the former order, and the inferior ovary of the latter, was enough to separate them, whilst in other orders, such as Saxifragaceæ, superior and inferior ovaries were found in the same order. *Cattleya* with its four and *Lælia* with its eight pollen masses were so closely related as to cross readily, as would also the allied genera *Epidendrum* and *Sophranitis*. Was the hybridiser, then, to upset the systematist, or was the latter to stick to his classification even if the groups he separated did unite? Dean Herbert said that if one species crossed with another they were undoubtedly one and the same, and if they would not cross they were different genera. *Rhododendron*, *Azalea*, and *Rhodora* would all cross together, and yet *Rhodora* was certainly very different in appearance from the other two, whilst *Rhododendron catawbiense* exhibited many points of difference from *R. jasminiflorum* and *R. javanicum*. The same might be said of *Fuchsia fulgens*, *F. magellanica*, and *F. cylindrica*, the last named having dimorphic flowers. It was manifest therefore that the systematist and the physiologist could only agree in matters of classification up to a certain point. The Black Currant and the Gooseberry had been crossed, also the Raspberry and the Strawberry, and yet no cross had been effected between the Show and Regal and the Zonal Pelargoniums; moreover, French varieties of Zonal Pelargoniums would not cross with English ones. It was quite possible for the pollen of one plant to set up an irritation in the ovary of another very far removed plant, such as *Fritillaria* and *Orchis*, but although the pollen tube had the power to enter the style and to set up irritation there its potentiality ceased. Many cases of false hybridisation were due to this. There were three ideas that it was necessary for all would-be hybridists to put on one side—viz. (1), that no members of two families would cross; (2) members of different genera very rarely; and (3) species of the same genus very easily. Nature would not be bound down by these rules, or any system of classification.

EXPERIMENTS IN HYBRIDISATION AND CROSS-BREEDING.

A capital paper dealing with experiments was contributed by Mr. C. C. Hurst, F.L.S. Mr. Hurst commenced by saying that although most breeders were of opinion that certain qualities were handed on from parent to offspring, slight variations were very rarely hereditary. Varietal characters, in particular, were so small that they could not be traced in the offspring, whilst specific characters were observable. In the case of a first cross between two species, about one-half of the dis-

linguishing characteristics of the parents were handed down to the offspring. Speaking of bigeneric hybrids, he said that there were 150 of them in the Orchidæ alone. The production of seeds lacking in germinating power was touched upon, such pathogenetic seeds being produced as the result of irritation which other foreign bodies other than pollen were capable of setting up, for a case had been known where this irritation had been traced to a caterpillar. Mr. Hurst went into the subject of prepotency of either parent at some length, and mentioned the fact that of three hybrids produced from the same capsule, one might resemble the pollen parent in form, the second might be like the female, and the third intermediate. The same differences occurred with regard to colour. When, then, the changes were rung in both colour and form in twenty or more parts, it was manifest that the number of possible variations must be immense. Of twenty-four hybrids raised from the same capsule, no two might be alike, and yet all would bear some resemblance to their ancestors. Referring to the erroneousness of the belief in the lack of fertility of the hybrid, the lecturer pointed out that while ninety genera had produced fertile hybrids, only three had yielded infertile ones. Such races as Gladioli and Cannas, made up of four distinct species, and in the third generation, and Rhododendrons of five species in the fourth generation were all abundantly fertile. Passing to the consideration of the stability of hybrids, he adduced proof that hybrids were not necessarily unstable. Thus, out of 500 seedlings of the hybrid *Berberis stenophylla* he had raised, not one had reverted. Many hybrids were remarkable for their vigour and precocity of blooming, but subsequent in-breeding served to impair these qualities. There was plenty of evidence to prove that while out-crossing tends to increase the vigour of the race, in-breeding was liable to curtail it. With regard to the limits of crossing, some apparently far removed plants have been crossed. With the comparatively recent union of *Zygopetalum* and *Batemannia*, no fewer than twenty-seven genera of Orchids have been united. In concluding, the lecturer strenuously advised all hybridisers to keep as exact record of their work, both of failures and successes, as possible, for these would prove of inestimable value to science.

The allotted time having expired, the Conference was adjourned with the conclusion of Mr. Hurst's paper until the following day.

ROYAL HORTICULTURAL SOCIETY.

CHIRWICK.—JULY 11TH.

THE meeting in the Society's gardens proved to be most interesting, as the number of hybrids was very considerable. The central portion of the vinery was fitted with stages, and those at the sides also were utilised. The heat in the immense structure was intense, and many visitors found it much more comfortable in the gardens, which are just now looking very attractive.

FRUIT AND VEGETABLE COMMITTEE.—Present: H. Balderson, Esq. (in the chair); and Messrs. J. W. Bates, A. Dean, P. C. M. Veitch, Jas. Smith, J. Basham, G. Woodward, A. H. Pearson, R. Fife, M. Gleason, A. F. Barron, W. Pope, G. Norman, W. H. Divers, Prof. Hugo de Vries, J. H. Veitch, W. Poupert, J. Willard, G. T. Miles, Chas. Herrin, P. Crowley, and S. Mortimer.

Messrs. Laxton Brothers, Bedford, staged boxes of Strawberries Waterloo, Latest of All, and Climax, the last a good flavoured variety, and free cropping, judging from the plants staged; also a collection of Peas, consisting of Thomas Laxton, Doris Harrison, Gladiator, Gradus, Duke of Rutland, and The Ameer, as well as a general collection of well-known varieties.

Mr. J. Hudson, gardener to L. de Rothschild, Esq., Acton, exhibited eight boxes of Cherries in grand condition. The varieties were Governor Wood, Black Eagle, Emperor Francis, Black Circassian (a splendid box), Bigarreau Napoleon, Early Rivers, Frogmore Early, and Bigarreau de Schreken.

Mr. W. Al'an, gardener to Lord Suffield, sent a basket of Strawberries named Lady Suffield. The plants were prolific, but the fruits are rather deep in colour. Messrs. R. Veitch & Son, Exeter, sent a new Pea, Glory of Devon, which bids fair to become a popular kind.

Messrs. Jas. Veitch & Sons, Ltd., Chelsea, sent a large specimen of their hybrid Blackberry, which appears to partake of the Raspberry in the spines, while the fruits undoubtedly favour the Blackberry. Mr. H. Eckford, Wem, staged some culinary Peas to number, some of them very fine. A very prolific Apple was sent by Mr. F. W. Cross, Wisbech, a cross between Lord Grosvenor and Keswick Codlin. The branches were roped with fruit, and the fruits of good size.

FLORAL COMMITTEE.—Present: C. E. Shea, Esq. (in the chair); with Messrs. J. F. McLeod, W. Bain, J. H. Fitt, J. Jennings, Wm. Howe, C. T. Drury, E. H. Jenkins, O. J. Salter, R. Wilson Kerr, Robert Sydenham, J. W. Barr, G. Paul, H. B. May, Chas. Jeffries, E. Beckett, J. Fraser (Kew), Jas. Walker, E. Mawley, H. Marshall, H. Turner, and C. R. Fielder.

A group of *Kalanchoe flammea* from the Royal Gardens, Kew, attracted a great deal of attention. It is an introduction from Somaliland; the corymba of orange-red flowers were bright and pleasing. It should make a good decorative plant (see p. 32). Mr. H. B. May, Edmonton, exhibited a beautiful collection of Ferns, comprising eighty fine forms

all raised in their nurseries. The collection was much admired, and contained good specimen plants of *Asplenium ornatum*, *internatum* Mayl, *incisum*, and *majesticum*; *Adiantum ornatum*, *parvifolium*, *plumosum*, and *Schneiderianum*; *Gymnogramma Mayi*, *convoluta*; *chrysophylla grandiceps superba* and *multiceps*, with a collection of *Pteris* and *Lomaria*.

Messrs. Laxton Bros., Bedford, staged a collection of dwarf Sweet Peas of the Cupid type. The varieties most noteworthy were Sultan, Princess Victoria, Princess of Wales, Invincible, Indigo King, Blanche Ferry, and Vesuvius. Messrs. Barr & Sons, Covent Garden, showed a collection of hardy flowers, comprising a collection of Brodiaeas, Potentillas, Gladioli, Japanese Irises, and dwarf rock and alpine plants. Mons. L. Duval, Versailles, staged an interesting collection of *Tillandsias* and *Vriesias*. The plants were very effective and the colouring remarkable. The best hybrids were V. Imperator, fenestrale fulgida, Pollmani, Vigeri major, Rex superba, splendens major, sphinx, and magnifica.

Mons. Morel, Lyon, exhibited boxes of Clematises, also plants to illustrate their flowering properties. The colours were exceptional, but the flowers appeared to be somewhat small, mostly of the viticella type; some of the hybrids of *C. lanuginosa candida* exhibit a great advance in colouring. The coccinea hybrids were also very distinct. One of the best of the collection was Ville de Lyon, a claret red colour of good shape.

One of the most interesting exhibits came from Mr. Jas. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury, consisting of a grand collection of hybrid Water Lilies, arranged tastefully in tubs and pans, *Nymphaeas stellata*, with its pale blue flowers: Aurora, a pale lemon; Robinsoni, a rosy red, were splendid. The gigantic forms of *Marliacea albidia* and *rosea*, also *Ellisiana* and *Exquisita* were also noticeable, while a good background was formed of *Nicotiana sylvestris*.

Messrs. Paul & Son, Cheshunt, staged an interesting collection of Roses, showing crosses carried out by Mr. G. L. Paul; one of the most striking was J. B. M. Camm, the result of a cross between Mrs. Paul and Madame G. Luizet, also Royal Scarlet, which owes its parentage to Cheshunt Scarlet and Marie Rady. Messrs. W. Paul & Son, Waltham Cross, displayed some excellent boxes of Roses, all raised by the firm. Many general favourites were on view. The flowers were excellent when staged, but the sun soon destroyed their beauty.

An interesting collection of hardy shrubs grafted on a variety of stocks was staged by Messrs. James Veitch & Sons, Ltd., Chelsea. The stocks were particularly interesting; for instance, the Lilac grafted on Phillyrea, *Crataegus* on the Quince, Lilac on the Privet, *Garrya* on the Aucuba, Olea on the Privet, and *Kalmia* on the *Rhododendron*. Two tanks of *Nymphaeas* also were in good condition, and included *N. Marliacea chromatella*, *N. Laydekeri fulgens*, *N. carnea*, and *N. Marliacea albidia*. In close proximity were *Nepenthes*—a really fine collection. Those most noteworthy were *N. Balfouri intermedia*, *Rafflesiana* (with sixteen perfect pitchers), *Wrigleyana*, *mixta* (p. 38), and *Mastersiana*, also some good plants of *Sarcocolla*, which included Courti, *Wrigleyana*, *Chelsoni*, and *exoniensis*. The hybrid Java *Rhododendrons* were a grand feature. The plants were well grown and were full of flowers. The most striking were *Souvenir de J. H. Mangels*, *Diadem*, *President*, *Ophelia*, *jasminiflorum carminatum*, *Purity*, *Ne Plus Ultra*, *Imogene*, *Yellow Perfection*, and *Neptune*. A few specimens of *Streptocarpus* and *Begonias* of the Rex type were shown. The Ferns also staged included forty-two supposed hybrids and sports, the parentage of which is quite unknown. They included such well known specimens as *Adiantum gracillimum*, *A. C. strictum*, *A. Farleyense alaicorne*, *A. Bausei*, *A. Lathomi*, and *A. Pacotti*. Mr. Wm. Smythe, Basing Park, Alton, Hants, sent two hybrid *Tacsonias*, one a cross between *T. mollissima* and *T. manicata*, and a cross between *mollissima* and *Smytheana*, which was named *T. mollissima splendens*, but it was quite impossible to form any idea of what they were like. Hardy Ferns were staged by Mr. C. T. Drury, Acton, and comprised *Scolopendrium* in good variety; also a number of *Athyriums* and *Polypodiums*, the whole forming an interesting exhibit.

Hybrid Clematises were staged in quantity by Messrs. G. Jackman and Son, Woking. The varieties were Henryi, Madame Van Houtte, Duchess of Teck, and Beauty of Worcester. Their new hybrids Sir Trevor Lawrence (a claret red), Duchess of Albany, Duchess of York, and Countess of Onslow were unique. The older forms were also much in evidence. Some excellent Delphiniums were staged by Messrs. Jas. Veitch & Sons, Ltd., consisting of double and semi-double varieties. Michel Lando, Monument, and Rubens were good. A hybrid *Hemerocallis* was sent by Mr. G. Tell, Clifton Cottage, York, called Pioneer, a cross between *H. aurantiaca* and *Thunbergi*, the result being a beautiful deep yellow flower.

Sweet Peas were contributed by Mr. Eckford, Wem, who staged some new varieties. General Gordon, Lord Kenyon, and Duchess of Westminster were distinct and of good size. A small collection of hybrid *Cinerarias* from the Cambridge Botanic Garden illustrated the crosses made by Mr. L. R. Lynch. Messrs. F. Sander & Co., St. Albans, exhibited some new plants, *Caladiums* A. Siebrecht, Rufus, W. Lanche, and Mrs. Oliver Ames amongst others, *Eucharis Stevensi*, a small flowering variety. Herr Wilhelm Pfister, Stuttgart, staged a dozen blooms of his single crested tuberous *Begonia*. The flowers were well frilled and bright in colour.

Mr. Jas. Douglas, Edenside, Great Bookham, exhibited a collection of Carnations, some of which were acknowledged by the Committee. The best varieties were The Baron, Rosalind, Heather Bell, Delos, Majestic, and The Maid. Messrs. Dobbie & Co., Rothesay, staged two new Sweet Peas—Navy Blue, a good colour; and Gorgeous, an improved

Meteor. Mr. C. G. Van Tubergen, jun., Haarlem, contributed hybrid *Hemerocallis* *Daphne* and *Lilium macrostaphana*. A collection of hybrid *Berberis* was displayed by Mr. C. C. Hurst, Hinchley, which comprised eight or nine distinct crosses.

ORCHID COMMITTEE.—Present: Harry J. Veitch, Esq. (in the chair); and Messrs. J. O'Brien, Jas. Douglas, J. T. Thorne, H. Ballantine, T. W. Bond, W. H. Young, E. Hill, J. Jaques, H. J. Chapman, W. Watson, de B. Crawshaw, W. Thompson, and W. H. White.

Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea, as might have been expected, contributed handsomely to the general display, and sent a comparatively large collection of Orchids. With several of the hybrids were shown the two parents. Amongst the most prominent were *Laelio-Cattleya eximia* (*Laelia purpurata* × *Cattleya labiata superba*); *Phalænopsis Ludde-vioacea* (fig. 11 page 37), *Laelio-Cattleya Zephyra* (*C. Mendeli* × *L. xanthina*); *Dia Veitchi* (*D. grandiflora* × *D. racemosa*); *Cattleya Enid* (*C. Mossiae* × *C. Warszewiczii*); *Laelia Stella* (*Laelia crispata* × *L. elegans* Wolsenholtz); *Sobralia Veitchi* (*S. macrantha* × *S. xantholeuca*); *Dendrobium rhodostoma* (*D. Huttoni* × *D. sanguinolentum*); *Epidendrum elegantulum* (*E. Endresii* Wallisi × *E. Wallisi*); *Cypripedium vernixum* (*C. argus* × *C. villosum*); *C. Euryale* (*C. Lawrenceanum* × *C. superbiens*); *Epiphronitis Veitchi* (*Sophranitis grandiflora* × *Epidendrum radicans*); *Laelio-Cattleya Canhamiana albida* (*Cattleya Mossiae* × *L. purpurata*); *Epidendrum radicans-vitellinum*; *Dia kewensis* (*D. grandiflora* × *tripetala*); *Cypripedium grande* (*C. longifolium* × *C. caudatum*); *Laelio-Cattleya Aphrodite* (*Laelia purpurata* × *Cattleya Mendeli*); *Cypripedium Drurio-Lawrenceanum*, *C. Morganiae* (*C. Stonei* × *C. superbiens*); *C. Alice* (*C. Stonei* × *C. Spiesianum*); *Spathoglottis aureo-Veillardii*, *Masdevallia Gairiana* (*M. Veitchiana* × *M. Davisii*); *Laelio-Cattleya Hippolyta* (*Cattleya Mossiae* × *Laelia cinnabarina*); *Cypripedium Harrisonianum superbum* (*C. villosum* × *C. barbatum*); *C. marmorophyllum* (*C. Hookeri* × *C. barbatum*); *C. Perseni* (*C. Lindleyanum* × *C. Sedeni porphyreum*); *Tannia Veitchi* (*T. Marshalli* × *T. Bensoniae*); and *Cypripedium Cupid* (*C. cardinale* × *C. Lindleyanum*), with a number of others.

Mr. C. C. Hurst, Burbage, Hinchley, sent a collection of hybrid *Paphiopedilum*, but none of the plants was in flower. De Barri Crawshaw, Esq., Sevenoaks, staged *Odontoglossum crispum* Mrs. de Barri Crawshaw, O. C. Crawshawyanum, and O. Cooksoni Crawshawyanum. From Messrs. F. Sander & Co. came *Cypripedium Lady Maple* (*C. Youngianum* and *C. Gowerianum*), *C. A. de Lairese superbum* (*C. Curtisii superbum* × *C. Rothschildianum*), *C. Garbari* (*C. Lawrenceanum* × *C. Rothschildianum*), *C. Duchess of Sutherland* (*C. Youngianum* × *C. Rothschildianum*), *C. Premier* (*C. beechense* × *C. Rothschildianum*), and *C. Comte Adrien de Germiny* (*C. Swainianum* × *C. Rothschildianum*). A. H. Sæe, Esq., sent from Hackbridge *Microstylis congesta*. *Cypripedium Shellianum* from G. W. Law Schofield, Esq., Rawtenstall, received an award of merit.

Mr. W. H. Young, Orchid grower to Sir Fred Wigan, Bart., East Sheen, contributed about a dozen Orchids, several of which were strikingly handsome. These comprised *Cypripedium Stonei candidum*, *C. Gertrude Hollington*, *C. macropterum*, *Laelio-Cattleya eximia*, *L. c. Eudora splendens* (*Laelia purpurata* × *Cattleya Mendeli*); *L. c. Canhamiana* (*Laelia purpurata* × *Cattleya Mossiae*), *L. c. Arnoldiana* (*Laelia purpurata* × *Cattleya Warneri*), *Laelia Euterpe* (*L. Dayana* × *L. purpurata*), and *Laelia tenebrosa gigantea*.

Messrs. H. Low & Co., Bush Hill Park, were represented by *Cattleya crocata albena*, *C. Mendeli enfieldense*, *C. Gaskelliana enfieldense*, *C. G. rosea*, *Laelio-Cattleya Arnoldiana*, and *Cypripediums Lawrenceanum-Mastersianum*, *L'Ansoni Morganæ*, *Alice*, *Alfred Hollington*, *Curtisi*, *Rothschildianum*, *T. W. Bond*, *Milmani*, *Lowi*, *macropterum*, and others. W. Cobb, Esq., Tunbridge Wells, showed *Catasetum Cobbi*, and *Cypripedium l'Ansoni* (*C. Morganæ* × *C. Rothschildianum*).

Mons. Ch. Maron, Brunoy, France, staged about one and a half dozen *Laelio-Cattleyas*, some of which were very handsome. There were *callistoglossa* (*Laelia purpurata* × *Cattleya gigas imperialis*), *Eudora*, *Berthe Tournier* (*Laelia elegans* × *Cattleya aurea*), *Martineti* (*Cattleya Mossiae* × *Laelia tenebrosa*), *radiata* (*Laelia purpurata* × *Cattleya notabilis*), *intermedia-flava*, *Duvaliana* (*Laelia purpurata* × *Cattleya speciosissima Luddemanniana*), and *Mossiae-purpurata*, *Cattleya Gaude* (*Guttata Leopoldi* × *C. Loddegesi*), *C. punctulata* (*C. Acklandiae* × *C. intermedia alba*), and *Laelia nigrescens* (*L. pumila* × *L. tenebrosa*).

Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, exhibited *Cypripediums Dominionum* (*C. caridum* × *C. caudatum*), *Euryale*, *Lawrenceanum*, *barbatum*, *Curtisi*, *Warhamense* (*C. Curtisii* × *C. philippinense*); *caudatum*, *grande atratum* (*C. caudatum* × *longifolium* Rozei), *superbiens*, *selligerum majus*, *Elmor* (*selligerum majus* × *superbiens*); *Dia Kewensis*, *Cattleya Breantiana* (*C. Loddegesi* × *superba*); *Masdevallia Parlatoresani* (*Barlaana* × *Veitchi*); *Odontoglossum excelens Sanderæ*; *Masdevallia Ajax* (*Chelsoni* × *Peristeria*); and *Epiphronitis Veitchi* (*Epidendrum radicans* × *Sophranitis grandiflora*).

CERTIFICATES AND AWARDS OF MERIT.

Caladium A. Siebert (F. Sander & Co.).—This is from *C. Rufus* and *C. albanense*. The central colour is dull red, and edges deep green (award of merit).

Carnation Heather Bell (J. Douglas).—A fine yellow ground edged and fringed with rose (award of merit).

Carnation Rosalind (J. Douglas).—A good petalled wine red variety that is very fragrant (award of merit).

Carnation The Baron (J. Douglas).—A border variety, yellow ground, heavily flaked deep red (award of merit).

Cattleya Harrisoni alba (Rev. F. Paynton).—A pure white form of a well-known and popular Orchid (first-class certificate).

Cypripedium Schilianum (G. W. L. Schofield).—This is a hybrid from *Goweri* and *Rothschildianum*, and both parents are to be seen. The large pouch is dull claret, and the petals are long, straight, and green in colour, with large brown spots. The dorsal sepal is cream, with brown lines (award of merit).

Cypripedium Stonei candidum (W. H. Young).—The dorsal sepal of this variety is milk white, and the colour throughout is paler than the type (award of merit).

Delphinium Michel Lando (J. Veitch & Son).—A bright royal blue in a fire spike of double flowers (award of merit).

Epilalia Charlesworthi (J. Veitch & Sons).—This is from *Laelia cinnabarina* and *Epidendrum radicans*. A brilliant orange red flower. The centre of the lip is pure yellow with occasional crimson spots (award of merit).

Laelia tenebrosa gigantea (W. H. Young).—This is a splendid form of the well known type (award of merit).

Laelio-Cattleya Adolphus (Rev. F. Paynton).—This is a bigeneric hybrid from *Laelia cinnabarina* and *Cattleya Acklandiae*. The narrow sepals and petals are rich orange with bright red spots at the tips. The spreading lip is cinnamon red (award of merit).

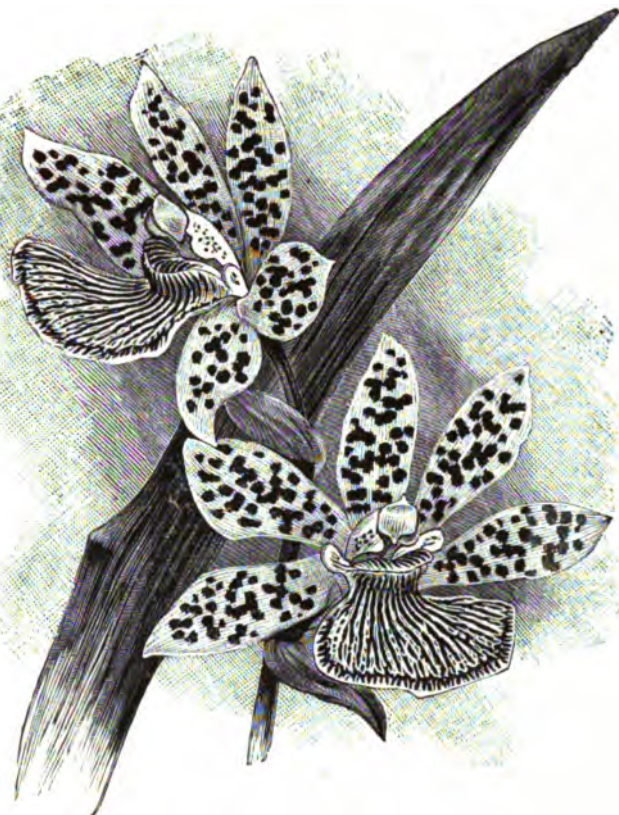


FIG. 6.—ZYGOCOLAX VEITCHI.

(Bigeneric hybrid between *Colax jugosus* × *Zygodetulum Mackayi crinitum*.)

Laelio-Cattleya Martineti (C. Maron).—This comes from *Cattleya Mossiae* and *Laelia tenebrosa*. The colour is soft purple in the sepals and petals, and deeper purple on the front lobe of the lip, with crimson purple in the throat (award of merit).

Laelio-Cattleya Duvaliana (C. Maron).—The sepals and petals of this bigener from *Laelia purpurata* and *Cattleya speciosissima Luddemanniana* are heliotrope, while the lip very dark velvety purple with yellow side lobes (first-class certificate).

Pea Glory of Devon (J. Veitch & Sons).—A variety with long pods containing about nine peas of good flavour and colour (award of merit).

Rose White Maman Cochet (W. Paul & Son).—A cream coloured form of the type (award of merit).

Madame Cadeau Ramey (W. Paul & Son).—A Hybrid Tea. The colour is cream, tinged in the centre with pink (award of merit).

Sweet William Elizabeth (Viscountess Enfield).—A rich salmon pink that will please everybody (award of merit).

Raspberry Golden Queen (J. Veitch & Sons).—This is from a cross between *Raspberry Superlative* and *Rubus laciniatus*. The fruit is large in size and bright yellow in colour. The foliage partakes of the *Rubus*, and is very handsome. Messrs. Veitch sent specimens for inspection from Langley on Wednesday morning (first-class certificate).

Strawberry Lord Kitchener (J. Veitch & Sons).—This is from a cross between *Waterloo* and *British Queen*. The fruit is medium sized and of excellent flavour. As the whole of the fruits exhibited were promptly eaten, Messrs. Veitch kindly sent specimens from Langley for inspection (award of merit).



ROSE SHOW FIXTURES IN 1899.

- JULY 14th (Friday).—Ulverston.
 " 15th (Saturday).—New Brighton.
 " 19th (Wednesday).—Cardiff. Newcastle-on-Tyne.†
 " 20th (Thursday).—Salterhebble and Sidcup.
 " 22nd (Saturday).—Newton Mearns.
 " 25th (Tuesday).—Tibshelf.
 AUG. 3rd (Thursday).—Liverpool ‡

° Shows lasting two days. † Shows lasting three days.

‡ Show lasting four days.

—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

A WELCOME NOTE.

WHILE thanking you for your kindly notice of me in the Crystal Palace Rose Show, I fear that your words will make an impression that is not justified by facts. I am thankful to say that I am in excellent health, but I have been greatly troubled by rheumatism the last few months, so I thought, as a loyal subject, I would follow the example of Her Gracious Majesty who, I read, had driven through the tent at the Windsor Show, and hence the cause of my appearance in a Bath chair, which added greatly to my comfort, and enabled me to exceedingly enjoy the Roses.—D., *Deal.*

TEA ROSES UNDER GLASS.

I FEAR that many do not get the good results they should from this section of Roses when grown under glass. After being pruned in winter or early spring the plants with ordinary care succeed and give a fine crop of flowers during April and May, and are then often left without any special attention being given throughout the summer beyond that of occasional watering. With the strong growers, such as Climbing Niphetes and William Allen Richardson, the result is a thicket of growth, bad attacks of mildew, and a few flowers of inferior quality, instead of a good supply of beautiful buds or fine blooms. Although large numbers of flowers may be obtained from the open air during the summer months, it is nevertheless a fact that we cannot get too many Tea Roses, provided the quality is good, and by giving a little extra attention to those grown under glass many superb flowers might be produced during the summer months. The popular fallacy that Teas do not require much pruning has perhaps, to a great extent, been the cause of neglect in many instances.

Undoubtedly there are conditions under which hard pruning is neither necessary nor desirable. Take, for instance, bushes grown in the open air for the purpose of supplying quantities of cut flowers, or for making a display on the plants. Hard pruning is then not necessary; cutting out weak growths, and moderately shortening others, is all that is required, with the exception of a little extra thinning of growths during the summer months. Roses grown under glass have, however, a longer season of growth, and therefore require constant attention in the matter of thinning, especially when they have filled their allotted space. At the spring pruning, too, any that have only weak shoots may safely be cut to within a few inches of the soil, as there is no danger of frosts injuring the young growths, as is the case with those grown in the open air. When once strong shoots are secured it is an easy matter to maintain vigour by due attention to feeding and pruning.

The present is an excellent time to thin out the shoots of Roses under glass, as the first crop of flowers will have been gathered, and strong growth is being made. The plan I adopt is to freely remove weak growths which are continually being formed, cut away some old ones which have already flowered, and leave as many medium-sized shoots as room can be found for without undue crowding. Such shoots usually produce fine flowers a little later on, and in many instances the buds will already be showing. When this is so the matter of selection is, of course, much simplified. If we want good Roses it is quite as necessary to keep weak growths constantly removed, as it is to thin freely the shoots of fruit trees in order to secure fine fruit. Chemical manure applied in the form of a top-dressing, and well watered in, is a potent factor in keeping Teas grown under glass in a vigorous and floriferous condition.

When the trees are grown in light modern structures I find it an advantage to lightly coat the glass with some approved form of shading; the shoots then get plenty of light to ripen them, and they are less liable to mildew in very hot weather.—H. D.

LONDON GARDENS OVER FIFTY YEARS.

No. 10.

ABOUT the middle of this century, not to go back any farther, folks living in Pimlico or Westminster regarded a visit to Vauxhall, Wandsworth, or Clapham as a country excursion, so little had bricks and mortar then invaded suburban Surrey. True, they had neither train, tramcar, nor cycle to take them out of London. If they did not walk the only thing they could do was to ride in one of the old-fashioned omnibuses, uncertain as to time, but certain to be stuffy, often crowded; for outside seats there were none, save a couple beside the driver, some did not even have these. Coming from the City, however, through part of the year it was possible to travel by steamboat near to your destination.

Going through one of these suburbs we feel like Rip Van Winkle of the story, when a midday rush of children from a big Board School comes upon us, or we pass a long array of shops, and pinch ourselves to be sure of our identity. We think of the Surrey suburbs of the past, their Georgian cottages standing in old-fashioned gardens; of the mansions scattered around with their ha-ha fences and broad lawns, their shrubberies and conservatories, which have one by one been removed, and the grounds taken by building speculators. Even yet a savour of rurality lingers at Clapham and Wandsworth, nor can Kennington or South Lambeth be called unattractive, quite a contrast to the larger and more populated Lambeth opposite Westminster; yet this, too, had at one time its notable gardeners, one of these being Tradescant, people called him "Tradescan." The elder of that name, gardener to Charles I., brought over from Europe, Asia, and Africa multitudes of species unknown in England; the younger was the introducer of exotic Ferns from Virginia. The later garden of the Tradescants was at South Lambeth, Cunningham says on the site of the Nine Elms Brewery; a house which had the name of Turret House, standing not many years ago in the main road, is supposed to have been his residence and museum. Sundry descendants of his favourite plants might possibly be discovered now in the locality.

Kennington, like Kensington and Kingston, evidently refers to a royal residence. There stood a palace of our kings in this village till the sixteenth century; later a mansion was built, called Carroone House, which had attached to it a deer park and large orchards. Nine Elms, near the Thames, took its name from nine trees, conspicuous to passers-by on land or water—a rather moist spot, which the gardeners turned to account for the cultivation of Pumpkins and Melons. But the neighbourhood of Kennington was liable to sudden irruptions of water, and these were sometimes damaging to gardens, till Fentiman by raising the ground, and also by effective drainage, checked the carries of Father Thames. Upon what had been the "Washway" Fentiman formed gardens and planted shrubberies a century ago; modern progress has interfered with these, and most of them have made room for streets or terraces. Vauxhall, a name given to that part of Kennington nearest the river, does not seem to have had anything to do with Guy Fawkes, though such is the common belief. There is good evidence it was named after Fulke, a follower of King John. Nearly two centuries Vauxhall Gardens, called at first the "New Spring Garden," was a favourite resort—not for the water only, but for stronger beverages, and fruit grown here, especially Gooseberries, Cherries, and Apples. The space diminished, its spring of refreshing water dried up, but the London public were still attracted by the amusements of Vauxhall. I saw the remnant of the land cleared about 1852 or 1853, when there yet survived some fine trees and shrubs.

Of the thousands that visit Kennington Oval during the summer to watch the vicissitudes of our national game, few can be expected to know that the field of play was once a beautiful nursery garden. What had been waste land was transformed by Michelson into a home of flowers, and he held his own, under various changes, till advancing years obliged him to retire about 1830, but he attained the age of a hundred, one proof this, amongst others, of the healthiness of a gardener's work. In his establishment several men received a training which enabled them to start nurseries elsewhere. One of these was Denyer, whose establishment at Loughborough, near Brixton, had many years' success. Memories of horticultural worthies crowd upon us in this suburb. We think of Curtis of last century, great also as a botanist, who had a garden at Lambeth for some while, with an extensive collection of British and exotic plants, which he afterwards took to the purer air of Brompton.

Then Robertson, an amateur, but devoted to gardening, inspired perhaps by Curtis's example, formed a botanic garden a little to the west at Stockwell, and left all his property towards its maintenance for the public benefit. But the Court of Chancery did not favour his scheme, and his will was set aside. Fifty years ago Andrews was just retiring; he had extensive houses at Lambeth, being famous for sending early forced fruit into the market. Much fruit was raised in the open air, too, particularly along the Wandsworth Road; indeed

for some produced close to Vauxhall, Mr. Phillips received two gold medals from the Society of Arts. It is more than probable that the influence of the archbishops left an impress in the locality; several of them were partial to horticulture, and they obtained many exotics by gift or purchase, some of which furnished seeds and cuttings to the gardeners around. Cardinal Pole, we know, brought over the first Fig trees planted in England. Occasionally the people of Lambeth are granted free admission to the Palace lawns and gardens, but efforts are now being made to have these more frequently open to the public, if not every day.

Vauxhall of 1899, with its dust and din, is not suggestive of that fair flower, the Camellia, yet here it was that Chandler succeeded so well with the plant some seasons, even in the open air. The commoner species flowered fairly well against a north wall, except when the spring was very cold. Messrs. Chandler's nursery seems to have started early in this century, and flourished till 1854 or 1855, being one of the best known South London establishments. The firm had a large quantity of Camellias growing in pits and frames, raising plants by grafting, also from seed. One of Chandler's varieties was named after him, though it had besides that of *C. versicolor*. Two more seedlings of his were *C. althæiflora* and *C. concinna*; but most remarkable was his obtaining *C. Aitoni* and four others from one capsule of *C. pomponia*. At Vauxhall several houses were appropriated to the choice varieties of the Chrysanthemum before the flower had attained to its present popularity. Another attraction to visitors was a length of wall that was covered with *Magnolia conspicua*, and the Cactus house contained many curious species. Along some of the borders climbing Roses were planted in rows, and cut to 4 feet from the ground so as to form bushes. A little book upon the Camellia was published by one member of the firm in 1830.

Quantities of Grapes were raised at Vauxhall, under glass, by Messrs. Chapman, who had a fine show of houses, till it became more profitable to build dwellings on the land. But for a good part of this century, owing to the convenient position of the suburb, much fruit was forced by the above firm, and other nurserymen, for Covent Garden. Bulbs were largely cultivated by Griffins; and Walworth, not far off, had at one time in the grounds of Milliken and Curtis, the largest collection of hardy bulbs existing in Britain. But the growers of fruit and flowers had to migrate further from the smoke of London. The last of the Vauxhall nurserymen I knew was Bray, who left about twenty years ago. However, at the expense of several public bodies, £43,000 odd was laid out to secure sundry vacant spaces and private gardens at Vauxhall, and a park, so-named, of 8 acres, was formed in 1890, the Kyrle Society being primarily concerned. One part of it was the garden attached to the residence of Fawcett, the blind Postmaster-General, and I had an opportunity of looking over the ground, where I saw some of the largest Artichokes I ever came across, also a row of white Mulberries, which I fear have been cut down since.

One of the tavern signs of Vauxhall was a Wheatsheaf, indicating, I presume, that crops of Wheat were grown near, and indeed, during the days of Protection it paid to cultivate cereals around London. North Brixton, as it is called, which lies close to Kennington and Vauxhall, had indeed, in the recollection of living persons, pasture and cornfields besides some orchards. An increasing demand for flowers led nurserymen to select the neighbourhood of Brixton as a promising locality for growing and selling, but there were no establishments here of very old date. Lord Holland got possession of a fine piece of property last century, when he bought the Loughborough estate of about 234 acres, said to be named from Lord Hastings, of Loughborough. Afterwards the mansion seems for a time to have been called Cromwell House, and on its grounds Denyer, who had been with Michelson, as above stated, had his market garden and nursery, probably the oldest in the locality; he was followed by Randal. Subsequently it was known as the Swiss Nursery, and closed about 1877, I believe. At one time "Swiss" was rather a favourite name for metropolitan nurseries which offered alpine plants as an attraction. Fowle had a nursery situate in Holland Road, also a market garden near, this existed from 1820 till twenty years ago.

The nursery of Messrs. Ponsford, Loughborough Park, has passed its jubilee, and through many years, here and at the branch establishments, a large amount of stock has been kept ready for supplying parks or gardens. Mulberries have been a speciality, sometimes nearly 2000 being sent off in a year; there is a suitability in this, from the long association of this part of Surrey with the tree. Angel Town, taking its curious name from the eccentric John Angel, has its nursery of some standing conducted by Messrs. Lane. Near Loughborough Junction are the Fern nurseries, famous for Ferns and other plants, and some open ground yet remains along Acre Lane.—J. R. S. C.

RICHMOND SHOW.—Messrs. J. Carter & Co., High Holborn, write: "We are sorry your reporter at Richmond seems to have missed our fine exhibit, for which we were awarded a silver-gilt medal."

COLOUR IN SHRUBBERY GARDENS.

LEAFY June might also be termed "flowery June," for at no time of the year are there so many beautiful flowering trees in bloom. The greatest drawback is that, in many gardens, there are by no means enough of them. There is, unhappily, a dull sameness about the green of the shrubbery portion in many gardens which might be brightened and diversified by the presence of a flowering tree here and there, or a specimen that is beautiful by the brightness of its foliage. Why are so many shrubberies dull and monotonous? Perhaps it is because they are old institutions that were planted before the present list of flowering trees and variegated shrubs sprang into existence. At any rate it is obvious that there is a great deal too much conservatism about pleasure garden management. "Ah! they have got too big now," is an expression we are continually hearing in reference to solid-looking banks of Laurels, ponticum Rhododendrons, Evergreen Oaks, and so on, which shut out many delightful views, cramp the natural aspects of the landscape, and give the garden walks very much the same appearance as the pathways in a puzzle garden.

But perhaps the most regretted thing of all about shrubbery gardens is the want of colour, and when making alterations this point should never be overlooked. Lately I saw a charming natural picture of the redeeming influence of colour. A garden pool lay cool and sequestered in a natural valley where tall shrubs and trees clothed the slopes to the water's edge. But the beauty did not lay altogether in the placid water or in the slopes of verdure, though both lent their aid. Two or three splendid Copper Beech grew by the pool side and dipped their lower branches in the water, light coloured Acers were dotted about in small clumps, trusses of hybrid Rhododendrons broke the sameness of the emerald foliage, and golden yellow Laburnums could be doubly seen—at first in reality, and again by reflection in the water. There was nothing particularly original about the idea. It was just a happy combination, with not a trace of glare or garishness.

No one can help admiring the beauty of flowering trees in early June, or admitting their usefulness when growing in their proper positions amid surroundings of green shrubs and Conifers. Take the Thorns for instance, and tell me what could be more charming? The common May of the hedgerows, the crimson, white, and pinks of the double-garden forms. They are all beautiful and never seem out of place. I know an old rambling low-gabled vicarage where the windows look over the lawn, in the centre of which stands a solitary Thorn. It might have graced a hedgerow once, and was perhaps left when the garden was formed. If so it was a happy idea, for when wreathed with its white blossoms as at the present time, or covered with red hips in the winter, it is alike beautiful. I need hardly make further mention of the golden Laburnum, which is now so much in evidence in recently formed villa gardens, except to say that it might with advantage be more frequently seen in shrubberies of older formation.

The hybrid Rhododendrons, too, as were seen to such advantage at the recent Temple Show. What a range and diversity of colour they possess. I am going to say no word against the good old *R. ponticum* that has served us so well in the past, and is useful still; but we want variety and brightness of colour, compactness of habit, and a length of blooming season which the old ponticum cannot give, and therefore we have recourse to the cream of the Rhododendron family, which the Waterers and others have worked at so hard to bring to perfection. Nor must the Azaleas be overlooked if we are to have colour in the shrubbery garden, for nothing could be more effective than clumps of the sweet-scented and free-blooming Azaleas pontica, mollis, and other forms which have resulted from the species mentioned. If we want more there are the Gueldres Roses, the graceful Genistas, sweet-scented Lilacs, Mock Orange, and others all well known, but none too often seen in places where they ought to be.

Nor can we do without foliage to give colour and variety, and I often think when I see a solitary giant Copper Beech, what a pity it is that more were not planted. How conspicuously they stand out when green predominates in the surroundings, and in solitude or company the tree loses none of its boldness. For dotting here and there, however, we want something smaller, and we have it in the copper-coloured Hazels and Japanese Maples. *Acer negundo* variegata is doubtless the most free form of the latter family, and its white and green leaves are always noticeable when planted in suitable positions in shrubberies. We have nothing else which gives us the same tint. Golden Elders are very beautiful, and also useful, as they succeed well in positions unsuitable for trees of a tenderer nature.

Perhaps I have omitted to mention other useful flowering or foliage trees, but these are only a few rambling notes, suggested to me at a time when the shrubbery is at its brightest, and the verdure is fresher than it ever will be again this year; but to the makers of new shrubbery gardens and to improvers of old I would say, Remember the colour, and plant freely both of flowering and bright foliaged trees and shrubs.—G. H. H.

FLOWERS IN JULY.

LUXURIANCE may be said to be the attribute of summer. It may be replied that this season is not one giving us summer in its ideal aspect. Complaints are rife. These—like the poor—are always with us, and it is strange if there are no compensations. It may be a bad Rose year for many; yet there is in many places a freedom of flowering which pleases those who care little for blooms for the show table.

The Queen of Flowers is ever welcome, and we in South Scotland are now under her sway. The highways and byeways have their myriads of flowers, and some hedgerows between fields are no less freely ornamented with the blossoms of the wild Roses from white through blush to deepest pink. Some of them seem to be as bright as some of the Penzance Roses, which prove so useful for the varied garden wants. In the gardens and pleasure grounds near by one sees these grow in favour; while Roses of the rugosa type, with the lovely Hybrid Perpetuals, Teas, and Hybrid Teas, grow more liked from year to year. One delights in these; yet the delight is not lessened by one's admiration for the old Roses of long ago.

It is my good fortune to have the opportunity of seeing many of these; bushes which for long years have given almost countless blooms to delight various generations. The old Celestial, the Maiden's

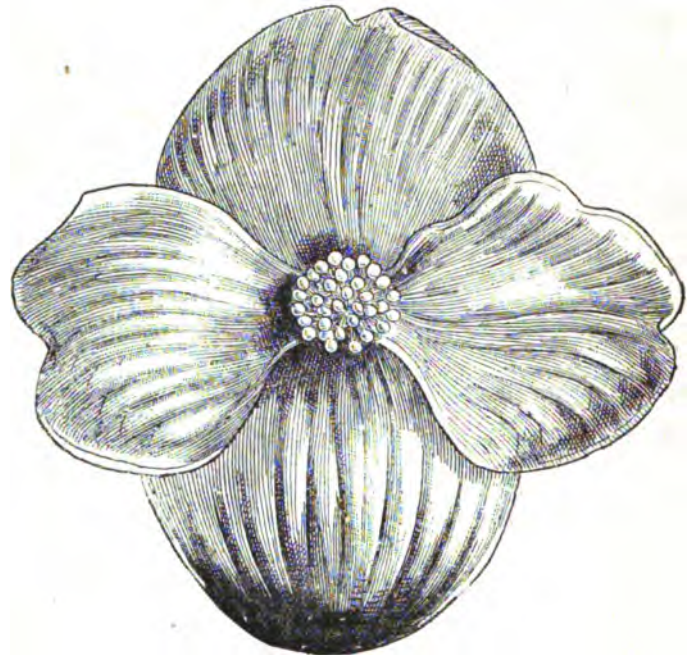
called pelviformis. One looks lovingly upon carpets of the little drooping bells of *C. pulla*, *C. pumila*, or on the taller flowers of *C. Hosti* or *C. rhomboidea*, as well as upon the masses of *C. Portenschlagiana* or *C. garganica hirsuta*. All are beautiful, and add their note to the harmony of the season.

The glory of the sun above is reflected in the yellow composites now appearing in increasing numbers, urged into bloom by the brighter, warmer time. We see the bright, gracefully arranged, ray-petals of the *Inulas*, the flowers of the *Anthemises*, with those of some of the earlier *Heleniums*. None of these is more beautiful than *Inula glandulosa grandiflora*, which, if it can be got true, is fine indeed, with its long, drooping, twisted rays. If the glory of the sun is enshrined in the golden composites below, so is the colour of the sky embodied in the tall Larkspurs which tower aloft. Delicately blue are some of these, emulating the pale blue of many of our days, while others again are deeper in hue than are our most lowering clouds or the purple haze which, afar off, hangs over the distant hills. The July garden without a *Delphinium* is an anachronism.

As the *Delphinium* is needful to complete the beauties of the time, so, too, is the *Carnation*, now beginning to give its beauty and its delicious odour. Whether, as some say, its name of Gilly-flower was a corruption of "July Flower" or not is of little conse-



(First hybrid, B. Sedeni, 1870, from B. boliviensis and B. species.)



(Begonia Queen Victoria, 1883 (J. Laing). One-third natural size.)

FIG. 7.—PROGRESS IN BEGONIAS.

Blush, the Damask, the Hundred-leaved, the Cabbage; these and other names recall the beauties of the garden Roses of old times. The poet who wished that the sky would "rain Roses" might almost feel as if his longing had been fulfilled.

If it is a time of Roses, it is, as well, one of herbaceous border flowers. They are many, and their charms are varied as some of the moods of our summer days. There are Lilies, ever precious, from the old Martagon, with its prettier white form, and the noble *L. M. dalmaticum*, to the sweet Madonna Lily, which brings with its name recollections of the legends and associations which cluster around it. Less chaste than these, yet striking in their brilliance, are the *davuricum* or *umbellatum* and Thunberg's Lilies. In a day or two will open by the pool the turned-back, spotted flowers of the Panther Lily, which grows so well in the moisture on the margin. A noble sisterhood indeed are the Lilies, some sweet and gentle as mind can think of; others commanding, imperious, voluptuous in their charms, and Cleopatras of the family, so dazzling is their beauty.

The taller Campanulas are now in their time of highest beauty. There are bushes of the *latifolia* type—masses of foliage, topped by clustered spikes of flowers of white or purple-blue; there are fine spikes, clothed with the great flowers of the newer forms of *Campanula persicifolia*. None please more than this Peach-leaved Bellflower, which with its pure white, lilac-blue, and light blue flowers gives so great a beauty to the gardens of the season. Nor are the dwarf Harebells less interesting, if they are less majestic and impressive. One admires the sheets of large, open, blue or white flowers, which cover the plants of *C. carpatica*, its variety *turbinata*, or that form

quence. It is, however, a July flower, though not limiting its favours to this summer month. One need not grow many Carnations, nor need one take up their culture specially, to qualify as one of the admirers of what Drayton calls "The brave Carnation with sweet and sovereign power."

One sees in some few gardens stray lingering blooms of the *Pæony*, which have been loth to quit the scene of their past successes. They may "linger superfluous on the stage of time," but their place is taken by the Poppy, with almost equally varied colouring, but without the fragrance some of the *Pæonies* had. The beauty of the Poppy is almost evanescent; with some species, such as *Papaver pilosum*, it may be gone ere the shadow on the dial marks noon; yet it is fascinating in its brilliance or its softness. The Shirley Poppies, with their exquisite colouring, need no knight to proclaim their beauty. Nor do other forms, annual or perennial, though, sooth to say, they are not free from faults.

But the joys of the time have caused to run too freely the movements of the pen. It would take long to tell of the bright *Violas*, the *Pansies*, the *Water Lilies*, the *Stonecrops*, the *Nepetas*, the *Geraniums*, the *Irises* which decorate our gardens now. *Incarvillea Delavayi* would claim a space beyond one's power to give. The summer *Gentians*, the *Evening Primroses* would thrust themselves before our eyes. Tall *Mulleins*, yellow, white, coppery, purple, crave some notice in vain. Stately and lowly, gay and modest, rich in colour, charming only because of their quietness or grace. These are plants of the time, flowers which, as Mahomet said of the *Narcissus*, are "food for the soul."—S. ARNOTT.

THE IRIS.

[A paper written for the Bournemouth Gardeners' Improvement Society at their meeting by the Rev. JOHN B. M. CAMM, M.A., Burnham Grange.]

AFTER a few preliminary remarks Mr. Camm proceeded:—First, I would say, what I think all of you will agree with, that the Iris is a most beautiful flower, in whose composition we must have form, and next colour and then fragrance, and lastly size, though this is the least important. I maintain that the Iris has all these. First, as to form. We are, I believe, accustomed to look to the Orchids as perfections of form in the stove; well, the Iris approaches nearer to the Orchid than any other flower, though I do not pretend to say its form approaches in regularity of petals the Rose, the Dahlia, the Lillium, or the Ranunculus. But taking the wonderfully varied shapes of the Orchid as most beautiful specimens of form, I say that the Iris is very like it, and for regularity of form scarcely any flower can beat *I. Kämpferi*.

Next as to colour, can anything surpass the wonderful dark blue or violet of the Iris barbata or ordinary German Iris in the type of this family? Then, again, its colours are so varied; they embrace every shade of blue, of yellow, and of mauve, terminating in pure white.

As to fragrance, it is most exquisite. I know no flower that has a more typical bouquet; it is different from anything else; it is a fragrance that does not cloy like that of the Lily or the Narcissus poeticus. It is, except the Rose, the sweetest and most refreshing perfume of any flower.

As to size, we have in *Iris barbata* and *Iris Kämpferi* enormous flowers. I have had duplex varieties of the *I. Kämpferi* that have been 10 inches in circumference, it not more, whilst, on the other hand, we have flowers smaller than a *Crocus*.

There is another advantage which the flower possesses, that is, length of blooming. I have had in my garden blooms of *I. reticulata*, *histris* and *stivlosa*, before Advent, and I have had, and hope to have again, *Iris Kämpferi* in flower at midsummer. Then, again, it is perfectly hardy; most of the varieties will do anywhere, in any soil and in any position. Lastly, it is cheap to purchase.

You will, I think, agree with me then when I say that the Iris is a beautiful flower, and that it possesses all attributes rendering it worthy of cultivation.

In the description of the flower we come to a few hard words, but all of you expect that when a flower is defined. The Iris belongs to the natural order Iridaceæ of the class Monocotyledons, and to the petaloid division with inferior ovary and only three stamens (the outer series), being thus distinguished from the *Amaryllis* family, which has six stamens. The Irids may be divided into *Diaphane*, *Evansia*, and *Xiphion*. The name Iris is from the Greek word "*Eris*"—discord; and the name is given to it on account of the hues of the flowers.

Two of the species are British—viz., *Iris pseudacorus* or Yellow Flag, and *I. foetidissima* or Stinking Iris, or, as it is called in the vernacular, the Roast Beef Plant, with blue, purple, and rarely yellow flowers. It bears this elegant name from the fact that when the leaves are crushed they give out a most unpleasant smell. The Iris is widely distributed, and its habitat is English although naturalised in Ireland and Scotland.

POETRY.

'The Iris has been in great honour among the poets, for they have often used the word in order to portray a woman tenderly loved. Under this convenient pseudonym we may speak a little freely about love. Boileau thus writes:—

Tantôt, comme une abeille ardente à son ouvrage,
Elle s'en va de fleurs dépouiller le rivage,
Elle peint les festins, les danses et les ris,
Vaute un baiser sur les lèvres d'Iris—
Qui mollement résiste et, par un doux caprice
Quelquefois le refuse afin qu'on le ravisse.

Sometimes like a bee busy over his work, she (Love) goes from the flowers to despoil the bank. She describes the feasts, the dances, and the laughter, and boasts of a kiss taken from the lips of Iris, who gently resists, and by a sweet caprice sometimes refuses to give it, in order that he may steal it.

Another poet whose name is unknown also speaks of the Iris as a woman who is loved.

Quand Iris prend plaisir à boire
Bacchus croit que c'est pour sa gloire,
Mais l'amour a tout l'honneur.
Car, en buvant, le vin la rend si belle
Que le plus altéré buveur
S'enivre, moins de sa liqueur
Qui de l'amour qu'il prend pour elle.

This may be translated:—

When Iris takes pleasure in drinking, Bacchus (the god of wine) believes that it is in honour of him, but on the contrary Love has all the honour. Because while drinking, the wind makes her so beautiful, that the most thirsty drinker becomes intoxicated, not so much from the liquor as from the love which he feels for her.

This, of course, may sound to some persons to have no connection with the flower of which I write, but you must remember that Iris

was, in the Greek mythology, a messenger of the gods, particularly of Jupiter and Juno. She was the daughter of Thaumas and Electra. She used to take divine messages in the air and on dry land, even in the depths of the sea. She prepared the beds of Jupiter, and the toilette and bath of Juno; and she did even greater services, for she carried off Juno when wounded from under the walls of Troy. Juno changed her into the rainbow. She is represented on antique vases as clothed in a long tunic, her hair supported by a band, and with wings on her shoulders, and sometimes attached to her legs. As I have already said, the name "*Iris*" is derived from the Greek word *eris*, discord—as her messages generally caused discord, while Mercury's brought peace. Such was the goddess from whom the lovely flower I am describing takes its name.

As a great deal of what follows will be a list of names and divisions of this flower, I think that the above description may not be ungrateful. In all I write I try to combine the *dulce* with the *utile*—which is agreeable with what is useful. It is said that in Bournemouth there

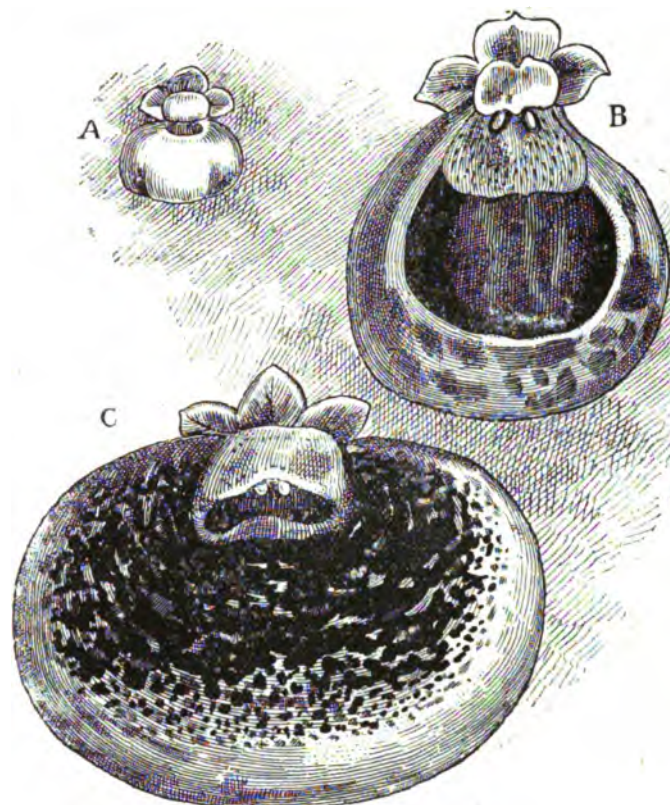


FIG. 8.—CALCEOLARIAS: PAST AND PRESENT.

(A, *C. arachnoides*, 1823. B, *Calceolaria*, good variety of the year 1841. C, *Calceolaria*, improved type.)

lives a very rich gentleman, who has made a huge fortune in silvering over pills—putting a covering of silver over a bitter pill, so that the medicine is not tasted by the palate. I have endeavoured to imitate him in this article, for now we come to statistics.

HISTORY.

I have spoken of the flower in connection with poetry, I would now speak of it in connection with history. The Iris is a very historical flower. It is known as *Fleur de Lis*, *Fleur de Luce*, and perhaps the *Fleur de Louis* or *Flower of Louis*. Louis VII., King of France, adopted the Iris as the emblem of his shield during the Crusades, and strewed it on the mantle of his son when consecrated at Rheims Cathedral. After the battle of Crecy, it was united with the arms of England, and remained so until, on the union with Ireland, the Shamrock took its place. But more than this, from the earliest times, the Iris was the symbol of power in Eastern countries.

A "*Fleur de Lys*," exactly like that of the French Monarchy, was found surmounting the sceptre on a monument of the highest antiquity at Dendera, in the heart of Egypt. The great historian, Herodotus, relates that the kings of Babylon formerly bore it at the extremity of their sceptres. Montfaucon also speaks of the sceptre of David, a representation of which was found in a miniature of a tenth century manuscript. This is surmounted by an Iris.

It will thus be seen that the flower on which I speak is a most important one from an historical and from a poetical point of view, and also from its great antiquity.

(To be continued.)



RECENT WEATHER IN LONDON.—The heat during the past few days has again been intense, and there have been several local thunderstorms, though they have not been very severe. About midnight on Monday there was a downpour, but Tuesday again was hot, 85° being registered in the shade. Wednesday, too, opened very close, and there were local showers.

ROYAL HORTICULTURAL SOCIETY—AMENDED CHARTER.—The Council announces a special general meeting of the Fellows of the Society, on Friday, the 21st inst., at 117, Victoria Street, Westminster, to receive the draft of an amended charter for the Society, and, if approved, to adopt the same. The chair will be taken at 3 P.M.

THE R.H.S. CHARTER.—The notice issued to the Fellows inviting their attendance at a special meeting to consider the proposed amendment to the existing charter, may be said to have fallen amongst them almost as a bombshell. All proceedings affecting the Royal Horticultural Society for several years have been so quiet and almost commonplace, that even such a proposal as is indicated seems like a sensation. What a pity it is that prior to the meeting every Fellow cannot receive a copy of the proposed amendments put into parallel columns with the portions of the charter it is proposed to amend. I daresay not one Fellow in a hundred knows that a charter exists, and hardly one in a thousand is familiar with its terms. The possession of a Royal charter may be a great honour, but it seems to have some disadvantages, seeing that it severely ties the Society in many ways. But the notices issued create much interest because coming without the least warning. Nothing whatever has so far leaked out as to the causes for the meeting, or of the amendments to the charter proposed. Presumably the causes for such intention are of recent origin, as no mention was made in relation thereto in the annual report. Practically the chief enactment of the Society for the year is one not mentioned in the President's speech. No wonder, therefore, the Fellows are in a condition of excited wonderment. It is so seldom that any great matter arises in our usual placid horticultural world. I notice it has been suggested that the proposed meeting should be deferred to a less busy date, but the Council may have no option but to hold it on the 21st. No doubt very many Fellows would like to know whether the proposed amendments are vital and drastic, rendering attendance imperative, or whether trivial and unimportant. Probably if asked the gardening press would readily publish an official letter on the subject from the Council.—A FELLOW.

A LINCOLNSHIRE ROSE AND FRUIT GARDEN.—The Rev. C. C. Ellison's Roses are just now in the height of their beauty, and on Wednesday, July 5th, the valued privilege of inspecting them was extended to the members of the Lincolnshire Gardeners' Association. To anyone who had not previously been round the gardens they were a revelation. Plot after plot was simply a mass of rich colouring, and as the strangers first wandered through one garden and then another, they began to wonder if the delightful sight would ever come to an end. The fruit trees were also inspected, and found literally covered with Pears and Apples, around each little plantation there being the inevitable bordering of Roses. A whole field has been transformed into a garden, and the laying out, too, shows evidence of considerable taste. Neatly trimmed Privet hedges divide certain portions from others; in one spot a fountain throws water some 30 feet or so into the air, whilst in out-of-the-way nooks rustic arbours have been arranged. Altogether there are eleven hydrants in various parts of the garden, and it is an interesting fact that there is not a single tree in the whole garden which cannot be reached by the hose. Mr. Ellison has just had a wall erected 150 yards long for the purpose of growing wall fruit, and as it is wired from end to end the space between the young trees is being utilised for the growing of Tomatoes. Indeed, ground is not wasted anywhere, and the whole garden is a striking evidence of the Rev. C. C. Ellison's indomitable energy and love of hard work. The invitation to visit the garden was responded to by about eighty gentlemen, and the hints they received from their host regarding the destruction of insect pests and the propagation of Roses will doubtless prove of considerable value. Light refreshments were provided, and as Mr. Ellison kindly allowed an inspection of his workshop and ivory turnings the evening was truly an enjoyable one. —(“Lincolnshire Chronicle.”)

THE ROYAL GARDENERS' ORPHAN FUND.—The annual dinner of this Institution will take place on Tuesday, July 18th, at the Hotel Metropole, at 6.30, when Sir Reginald Hanson will take the chair.

MARGUERITE CARNATIONS.—A good bed of early raised plants will make an effective display towards autumn. The flowers are very bright and distinct in colour. They are fragrant and good for cutting.—S.

ISLE OF WIGHT.—The monthly meeting of the Cowes Horticultural Society was held on Wednesday last at the Town Hall. Mr. T. Richardson presided over a good attendance of members. Mr. S. Heaton, horticultural instructor for the L.W.C.C., gave a lecture on the “Tomato,” which was listened to with great interest, and evoked a profitable discussion. A vote of thanks was accorded the lecturer on the proposition of the Chairman.

KALANCHOE FLAMMEA.—About four years ago seeds of this new species were presented to Kew by Miss Cole who, with Mrs. Lort Phillips—according to the account given with the figure t. 7595 in the “Botanical Magazine”—collected it in Somaliland. It flowered for the first time at Kew in 1897, and was then seen to be by far the most ornamental of the Kalanchoes in cultivation, and was considered to be one of the best indoor plants for general work introduced of late years, a future being predicted for it equal to that enjoyed by some of the most useful market plants. A good quantity of seed was ripened in 1897, and sown eighteen months ago, and from that seed several large plants flowered. It is of easy cultivation. The Kew plants vary in height from 15 inches to 2½ feet, and are surmounted with heads of bright red flowers, the heads of flowers ranging from 9 inches to 15 inches across. They grow well in a cool greenhouse, and can be finished in pots from 3 to 6 inches in diameter. When young they may be stopped once, or allowed to grow with a single stem until they flower. A mixture of loam, leaf mould, and sand is a suitable compost, and propagation may be effected either by cuttings or seeds. The flowers last in good condition from six to eight weeks.—W. D.

NATIONAL AMATEUR GARDENERS' ASSOCIATION (LIVERPOOL BRANCH).—Certainly the best meeting ever held by members of the branch was that on Thursday last. The exhibition table was a picture, the first prize basket arranged by Mrs. McGregor, Roses and Begonias from Mr. Ardran, Roses from Mr. Hacking, and miscellaneous from Mr. Cangle and Mr. Drake deserved every bit of recognition showered upon them. In the lecture room, Mr. Drake presided over a numerous attendance, and “A Talk on Various Topics,” by Mr. Ardran, was listened to with close attention. Mr. Ardran, in his remarks, spoke of the interest taken in gardening by ladies, and urged the Society to further encourage them by instituting a prize for table decorations. Flowers mentioned particularly were Carnations, Poppies, Marguerites, and Sweet Peas, with Smilax, Gypsophila paniculata, and Grasses. Afterwards an instructive essay bearing on the great difference in the character of growth, and particularly that on the budded Rose in certain soils, was given. At the close, Mr. Hacking kindly offered most suitable prizes for table decorations. A discussion followed. Mr. Ardran, on behalf of the members, heartily wished their Hon. Secretary, Mr. J. M. Smyth, and his newly wedded wife, long life and happiness, Mr. Smyth having been married recently to Ethel Mary, daughter of Captain J. Crook, of Liverpool and London.—R. P. R.

BIRMINGHAM GARDENERS' ASSOCIATION.—At the recent midsummer meeting, in response to the prizes offered by the Committee for collections of cut hardy garden flowers, there were two exhibitors, Messrs. E. J. Mustin and Dedicott, each with comparatively small but interesting collections. Mr. James Deans opened the discussion thereon, giving a few interesting and instructive notes concerning several variations of some of the genera and species. Mr. W. Spinks (the Chairman) strongly advocated the extension of these increasingly popular denizens of the flower garden. Mr. Mustin afforded some suggestive ideas regarding the general utility of the flowers both for the flower border and for indoor decoration. Mr. W. Gardiner expatiated upon the adaptability of the Snapdragon, especially in large masses, whether for the herbaceous border or “bedding out” purposes, the Tom Thumb and medium types being especially suitable for those purposes, whilst the majus type, which attains a height of 6 feet, is more adapted for the back part of borders, or in large beds among shrubberies. Pentstemons were similarly advocated. The above meeting was held in connection with the one for the final arrangements for the annual outing, which, on July 19th, is to be to Woburn Abbey and the Experimental Fruit Farm at Ridgmont, by the permission of the Duke of Bedford, who also has generously included luncheon and tea for the visitors, through the agency of Mr. S. Pickering.—W. G.

METEOROLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1899.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
July.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday .. 2	W. N. W.	deg. 57.7	deg. 53.7	deg. 62.6	deg. 52.1	ina. 0.11	deg. 62.5	deg. 61.1	deg. 57.7	deg. 50.5
Monday .. 3	W. N. W.	55.6	53.3	62.5	54.0	0.02	61.4	60.9	57.3	49.5
Tuesday .. 4	N. W.	60.6	56.3	66.5	54.1	—	60.3	60.1	57.8	48.0
Wednesday 5	N. N. W.	68.9	58.2	74.3	49.5	—	60.9	60.1	57.8	42.0
Thursday .. 6	N. W.	68.6	63.9	77.2	55.4	—	63.9	60.5	57.8	48.2
Friday .. 7	N. N. W.	69.8	63.6	79.9	55.0	—	65.9	61.5	57.8	49.1
Saturday .. 8	N. N. W.	68.9	63.0	77.5	58.7	—	67.7	62.7	57.9	51.5
MEANS ..		63.6	59.0	71.5	54.1	Total 0.13	63.2	61.0	57.8	48.3

The weather during the first part of the week was rather dull and cloudy, the latter part being very bright and warm.

—THE SEASON AT SOUTH SHIELDS.—Mr. Bernard Cowan writes:—"We have had a very dry season here up to lately. Our spring bedding was lovely, we never had it finer. Imagine in our principal avenue there were nearly 20,000 Wallflowers in full bloom; the sight was grand, and attracted thousands of visitors. I am glad to say the annuals you suggested have done very well, especially the Cornflowers, these are 6 feet through, now covered with thousands of blooms."

—JUNE WEATHER AT HODSOCK PRIORY.—Mean temperature, 58.5°; maximum in the screen, 79.8° on the 6th; minimum in the screen, 35.2° on the 15th; minimum on the grass, 28.7° on the 15th. Number of frosts in the shade, none, on the grass four. Sunshine, 218 hours, or 44 per cent. of the possible duration; difference from average, +60. Rainfall, 1.88 inch; difference from average, -0.23. Rain fell on eight days; maximum fall, 0.72 inch on the 30th. Rainfall from January 1st, 10.98 inches; difference from average, -0.34. A fine and warm month. Up to the 17th no rain fell, and we had a great deal of sunshine. The last fortnight was showery.—J. MALLENDER, *Workshop*.

—SIZE OF BROCCOLI HEADS.—I have no doubt both I and "South Yorks" are a little out in one respect in referring to Broccoli heads as 9 inches and 10 inches in diameter. Were the heads for instance absolutely 10 inches through, the heads measured over their tops with a tape would probably run to 15 inches, seeing that the heads are seldom flat, but usually rotund. My own reference to 9 inches was over them, not through, and probably "South Yorks" 10 inches was of the same character. Late Broccoli, even more than earlier ones, generally have high or rounded heads, and hence when measured over them referred to as diameter, make them to seem very large. Autumn Giant Cauliflowers sometimes reach great size; white Broccoli, especially late ones, seldom attain to such large dimensions.—A. D.

—LAND STEWARDS' AND GARDENERS' BENEFIT ASSOCIATION.—The second annual meeting of "The Drummond Benefit Association for Land Stewards and Gardeners" resident in Ireland was held in the Central Lecture Hall, 12, Westmoreland Street, on Friday, 7th inst., at three o'clock. There was a good attendance of members, several of them having come from a distance. This association was formed in 1897 with the following objects, viz.—First, the giving of assistance to members while out of a situation; second, when incapacitated from work by old age or out of situation through sickness, and also, third, the granting of aid to widows, orphans, or others who were dependent upon deceased members. The chair having been taken by Mr. William H. Drummond, the Secretary was called upon to read the notice convening the meeting, and letters of apology from members for non-attendance. The report and statement of accounts were thereafter presented. The Chairman, in moving their adoption, commented on the highly satisfactory condition of the association, that it was formed on a sound basis, and was not only prosperous in membership, but also in funds. It was wise on the part of the members to provide something against a rainy day, and they looked forward to the association proving of great advantage in this respect. Mr. Peter Brock, of Drogheda, expressed the very great pleasure which it afforded him to second the adoption of the report and accounts of the association, which was going on by leaps and bounds. On the motions being put, the meeting passed them with acclamation.

THE FLIRTATION OF FLOWERS.

It was Conrad Sprengel who first dared in his book to give utterance to the great thought that the ever-widening sea of beauty and the massive grandeur with which Nature decks herself was not the result of special acts of creation, but was the logical outcome of visits from insects which were fascinated by the magic charm that bent their wings to the flowers of our gardens and fields. Darwin supported by solid arguments the fading aureole of the German naturalist, but it should be remembered that Sprengel was the first dreamer who made our intellectual life a source of infinite pleasure, and the study of horticulture a subject fit for the loftiest minds.

One of the most irresistible arguments, or rather observations, pointed out by Darwin was that plants that were not visited by insects, but courted by the wind, invariably assumed a symmetrical form; and though their impressive bearing has admirers, still the inborn longing is for the irregular shaped sweet-scented plants, and it is the action of insects that largely accounts for the pleasing diversity when in search of a savoury meal.

Sir John Lubbock, after citing the wonderful fact of the female flowers of *Valisneria spiralis* reaching to the surface of the water, on which they float, till the pollen detaches itself from the short-stemmed male flowers rises to the surface, and thus comes in contact with the pistils of the seed bearers, points how "the stigmas of the *Arum* come to maturity first, and have lost the possibility of fertilisation before the pollen is ripe. The pollen must therefore be brought by insects, and this is effected by small flies, which enter the spathe, either for the sake of honey or of shelter, and which, moreover, when they have once entered the tube are imprisoned by the fringe of hairs. When the anthers ripen the pollen falls on to the flies, which, in their efforts to escape, get thoroughly dusted with it; then the fringe of hairs withers, and the flies thus set free soon come out, and ere long carry the pollen to another plant."—A. O'NEILL.

PROPAGATING STRAWBERRIES.

"It is important that propagation be only carried out with runners from fruitful plants, therefore this must be noted now, and any that are not fruitful discarded, also the runners from them destroyed."

So says a correspondent on page 19. Being of an inquiring turn of mind, I would like to ask the writer upon what grounds he bases this advice? I know that a theory of this kind exists, but has anyone proved it to be true? I have seen several statements in the *Journal*, though I am unable to say when, that there is no ground for this ancient superstition; and I never could see why, because a Strawberry failed to fruit, it should produce barren progeny. One would not expect cuttings from a fruit tree which was resting for a season to make barren trees. However, to leave the realm of surmises, and come down to facts. Last season we had beds of Monarch, which did not produce half a dozen fruits to a bed, yet the layers from them are carrying a fine crop this year; and I have a small bed of runners carefully selected from barren plants of several different varieties, all of which are carrying a crop of fruit.

How utterly impossible it is to lay down rules as to the best varieties of Strawberries, even for a given locality, scarcely any two seasons' records would agree. Royal Sovereign is perhaps an exception, so far it has always been good. Latest of All in 1897 was our best Strawberry, this year the fruit is hollow and woolly. Laxton's No. 1 was very good last year, this season the crop is poor, and the flavour worse. Speaking of flavour, has anyone a good word to say for Sensation, Competitor, Leader, or Filbasket? With me they were so inferior that I have discarded them. Scarlet Queen was quite the best of the earlier this year, and has proved a sure cropper; I do not think it is so well known as it deserves to be. It is too early to report upon the later kind, and indeed I am wandering from my subject, which was the fruitfulness or barrenness of runners from unfertile plants.—A. H. PEARSON, *Chilwell, Notts*.

PLOW AND PLO.

HAPHAZARD words "D." puts together in a row;

Spelt the same they rhyme the same; we wonder how

He missed so many others that we know,

That spelt the same might make a different row!

This "D." it seems would hasten on to sow,

And shirk the labour of the ponderous plow;

Perhaps he hopes his sucking pigs will grow

Without the nurture of a mother sow!

Come now, you know, you play it rather low.

None of these other words your lists allow.

Drawn at a venture—before your well aimed bow,

We other archers must fall down and bow.

Vae vicis! we have no desire to crow,

Or add a torture to your racking brow.

But let us ask you, "Have you hay to mow?"

Then sell it, for of course you have no cow!—RET RAILL.

[The lines are in their way irresistible, and "D." (page 530) ought to be satisfied without a host of budding poets trying to improve on them and compelling us to say *stow*.]



LÆLIO-CATTLEYA APHRODITE RUTH.

It was the generally expressed opinion at the Temple Show last month that *Lælio-Cattleya Aphrodite Ruth* was one of the finest Orchids in the show, and that the first-class certificate was richly deserved. The plant was exhibited by Mr. Lupton, gardener to J.

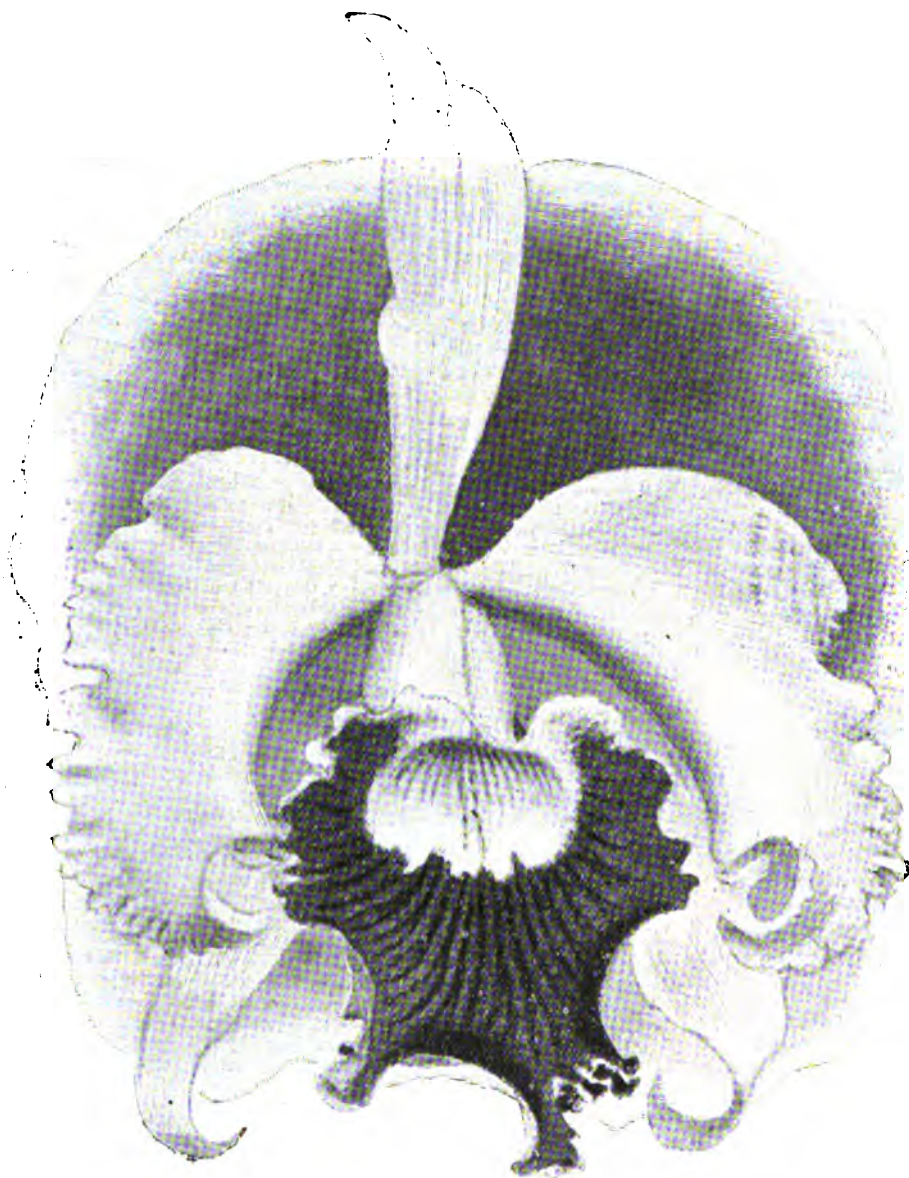


FIG. 9. — *LÆLIO-CATTLEYA APHRODITE RUTH.*
(Bigener from *Cattleya Mendell* and *Lælia purpurata*.)

Rutherford, Esq., Beardwood, Blackburn, Lancs, who has on several occasions sent specimens to the Drill Hall meetings, but never of such excellence as on this occasion. The flower (fig. 9), of which there were three on the plant, was singularly refined in character. The narrow slightly recurving sepals are delicate blush, and the broader wavy petals milk white with a suspicion of pink. The beautifully fimbriated lip is brilliant crimson maroon, with a lemon yellow throat. This bigeneric hybrid resulted from a cross between *Cattleya Mendell* and *Lælia purpurata*.

DENDROBIUM NOBILE AT HOLLYCOMBE, LIPHOOK.

This well known species and its varieties, in my opinion, still retains its position as one of the most useful Orchids in cultivation, as by having a succession of plants no trouble need be experienced in having them in flower from January until June. Some of the most

profusely flowered specimens I ever had the pleasure of seeing are in the collection of John Hawkshaw, Esq., Hollycombe, Liphook, where they are so luxuriant in growth that one feels almost loth to leave them.

On the occasion of my visit (June 9th) there were arranged in the form of a bank in a spacious conservatory adjoining the mansion, some dozen or more plants, with a few Palms and Maidenhair Ferns interspersed to heighten the effect. The largest of these is 4 feet in diameter, and was carrying 1200 flowers. There were some dozens of well matured pseudo-bulbs of an average length of 3 feet. Near by was a plant in a 10-inch pot with fully 1000 expanded blossoms, while three more were carrying about 800, 600, and 500 respectively.

"How old are these plants?" was one of the questions put to Mr.

Silcock, the courteous gardener and grower of the *Dendrobiums*. In reply he informed me that they were young offsets taken and made up in the flowering pots three years ago. "For," he remarked, "if large specimens are required it is better to make them up in this way, as plants repotted never thrive so well as those left undisturbed." As regards after treatment, great care must be exercised in watering until established, as the young growths are prone to damp; afterwards liberal supplies can be given both in the atmosphere and at the roots during active growth, in fact they revel in tropical treatment. To stimulate the growth a little weak liquid manure is given them—"that made," remarked Mr. Silcock, "from fowl manure being my favourite, alternated with soot water occasionally during the season."

As the pseudo-bulbs mature they are removed to a cooler temperature, every care being taken to insure thorough ripening. Those required for very early flowering are, however, simply given a slight rest for about a fortnight, and are then gradually brought forward to the flowering stage. As regards insects, especially for mealy bug, the able grower advised syringing with a mixture of a small wineglass of petroleum diluted with 4 gallons of rain water, laying the plants on their sides during the operation, and taking care to keep the mixture constantly agitated. I observed that *D. nobile Wallichii* was being largely increased, this being considered exceptionally useful as the flowers last quite a fortnight longer than the ordinary species.—G. HAGON.

THUNIA WINNIANA.

T. WINNIANA is a useful addition to this showy, graceful, and easily cultivated family of plants. It is a little later than either *T. Marshalliana* or *Veitchiana*, and consequently prolongs the flowering season. The flowers, quite 5 inches across, are of a beautiful bright magenta colour, in this respect coming nearer *T. Bensonii* than any other; in fact it is best described as a glorified variety of this species, as it resembles it both in height and appearance. It will succeed under the same conditions as the more common and better known varieties. It originated in the collection of C. Winn, Esq., Selly

Hill, Birmingham, and was named after its owner. *T. Winniana* is a plant that is to be recommended to those who grow a few Orchids in an ordinary plant stove.

PHAIUS BICOLOR PURPURASCENS.

A beautiful variety of the old *P. bicolor* that is worth extended culture is *P. b. purpurascens*. This species is a native of Ceylon, being found growing on the sides of hills near Peradeniya, and therefore should be watered with caution. The sepals and petals are a beautiful clear yellow, suffused with purple, the lip acuminate, curved downwards, and rolled over the column, of a brightish purple colour, suffused with yellowish green. The plant is of ornamental and stately growth, and continues in flower for a very long time. It can be grown in a warm house or plant stove in the compost usually recommended for *Phaius*.

CATTLEYA WARNERI.

This highly coloured member of the labiata section, which thrives with me under the same conditions as *Cattleya gigas*, is most useful for summer exhibitions, and when well flowered is a striking object. It is not considered to be as free flowering as some varieties, but grown under the conditions recommended no difficulty will be experienced. There are many varieties, some of which are superior to others; but the best are exceedingly hard to beat in this large and beautiful family of plants.

CATTLEYAS MOSSIE AND MENDELL.

Now that these two beautiful *Cattleyas* are fast passing out of flower, the cultivator will have to consider the best means to acquire

LÆLIO-CATTLEYA CANHAMIANA.

Many varieties of this handsome bigeneric hybrid between *Lælia purpurata* × *Cattleya Mossie* have been flowered which show quite as much variation as their parents, and all of which are beautiful. Amongst the most charming may be named *Fire King*, *superba*, and *Amelia* in the dark varieties, with *alba* and *langleyense* in the white-petalled types, and the attractive *Lady Wigan* may be taken as an intermediate form. The treatment given *L. purpurata* or its other parent will answer their requirements. They are all worthy of a place in any collection. The original plant was raised in the nurseries of Messrs. J. Veitch & Sons, and it has since been raised and flowered in several collections both at home and on the Continent.



FIG. 10.—LÆLIO-CATTLEYA DIGBYANO-TRIANÆ.

(Bigeneric hybrid from *Lælia* (*Brassavola*) *Digbyana* and *Cattleya* *Trianæ*.)

well ripened growths for next season's display. Many plants no doubt, where a considerable number is grown, will require larger receptacles and fresh compost, and this is the best season for repotting, as they quickly re-establish themselves, especially if kept on the dry side. After they are repotted or repanned (it does not matter which), no water should be applied direct to the compost until the roots are seen to be running nicely; an occasional damping or syringing between the pots is all that is necessary. The compost I find most suitable is good peat broken into pieces nearly as large as a hen egg, well beaten to take out the earthy portion, mixed with about a third of sphagnum moss, adding a few pieces of porous bricks. All plants should be neatly and carefully staked to prevent swaying, or they will not get a thorough root hold; at the same time they should be thoroughly cleaned. When in active growth the water supply must be increased until the growth is completed, and then only sufficient be given to prevent shrivelling.

BULBOPHYLLUM RETICULATUM.

To the lover of the curious this singular Orchid will be interesting, as its foliage is not destitute of beauty, whilst its flowers have decided charms. The leaves are from 3 to 5 inches long, somewhat heart-shaped, with the nerves of a deeper green than the rest of the surface, giving it a reticulated appearance. The flowers are white striped inside with purple, the lip spotted with purple; they are generally produced in pairs at different times of the year. This plant should be grown in the hottest house, as it is a native of Borneo, where it was discovered by Thomas Lobb about the year 1852. It succeeds well in small pans, suspended close to the glass, in the ordinary Orchid compartment.

DENDROBIUM NESTOR.

When *Dendrobium* flowers are getting scarce, this hybrid between *D. Parishii* and *D. anosmum* is valuable, as the bright rosy lilac

flowers are most acceptable where buttonhole flowers are in demand. It is a good grower, and thrives well in the usual compost, suspended in small pans, in a warm Dendrobium house. It must be watered very cautiously, as it is apt to decay at the base of the pseudo-bulbs. It inherits the peculiar odour of medicinal Rhubarb that characterises its parents.

DENDROBIUM DEAREI.

This handsome and desirable species is worth bestowing considerable pains and attention upon to produce it in the best possible manner. It is not one of the easiest to grow—in fact, a great many fail entirely with it; but when well done few Orchids command more attention. It is a heat-loving plant from the Phillipine Islands, where it was discovered by Col. Deare in 1882, and has been imported in considerable quantities since, and at the present time is fairly plentiful, and well within the reach of anyone. I find it grows well in small pans, as I said before, in the warmest house; it detests much compost about its roots, and what is used must be of the very best. I employ one-half rough peat, from which all the fine particles have been taken; the other half clean live sphagnum moss, in which a few broken clean crocks are added. It delights in an abundant supply of atmospheric and root moisture whilst growing, and when not in flower an occasional syringing will do no harm if clean soft water is at command. The foliage should be carefully watched for a small white scale, which unless kept under will do irremediable damage—in fact, should the grower decide to start with imported plants, great care should be taken that they are all thoroughly clean before they are allowed to be placed in their pans.—J. BARKER, *Hessle*.

SILICO-FLUORIDE OF AMMONIUM.

WHEN you were first good enough to allow me to draw attention to the use of the silico-fluoride of ammonium in the *Journal of Horticulture* (21st October, 1897), you also printed the opinion of an expert in horticultural chemistry as follows:—"I believe the material suggested by your correspondent is possessed of no insecticidal value apart from its acidity, and consequent danger to the plant." As sufficient time has now elapsed to allow of a complete investigation of this matter, perhaps you will permit me to state the conclusions at which I have arrived.

The silico-fluoride of ammonium, when prepared by any process of sublimation, as the samples I sent were, gives with water a decidedly acid solution. A solution of fluosilicic acid in water was therefore completely neutralised with ammonia, filtered, and evaporated to dryness. The crystals were redissolved in water, and the solution filtered; this solution was quite neutral to litmus.

A quantity of an aqueous solution of the sublimed silico-fluoride, which was strongly acid to litmus, was then evaporated to dryness. The crystals so produced were redissolved in water and filtered. The solution thus prepared was no longer acid, but entirely neutral.

The question then arose, To what is the acidity due? I placed about a pint of the acid solution in a glass bottle; after standing for six months there was no sign of the bottle being corroded, which would have been the case if the acidity were caused by free fluoric acid.

The only other acid capable of existing in such a solution is silicic (H_2SiO_4). Such an acid is immediately precipitated by adding excess of ammonia to the silico-fluoride of ammonium, fluoride of ammonium being simultaneously produced. It is easy, therefore, to understand how the process of sublimation produces an acid salt. The slightest irregularity in the dissociation by heat of the substance, or in the reassociation of those constituents during condensation, may well give rise to a temporary excess of ammonia, with the immediate formation of soluble silica. This silica would give an acid reaction with litmus.

Soluble silica is not, however, "dangerous to plants," acid though it may be. Probably all of your readers will agree that, within reasonable limits, the more soluble silica a plant comes in contact with, the better for the plant. And I cannot help thinking that, from a manurial point of view, one great advantage in using silico-fluoride of ammonium is this—viz., that on decomposing in soils it gives rise not only to ammonia (very possibly in the form of a carbonate), but also to a large per-centage of soluble silica.

In order to test the matter fully I have sent considerable quantities (up to 7 lbs.) of both the acid and the neutral salt to correspondents in this country and abroad. As far as I can judge there does not appear to be any practical difference in the behaviour of either substance, and this was to be expected, for after all the acidity was bound to be very trifling.

I cannot help concluding, therefore, with submission to the wider practical knowledge of more experienced horticultural observers than myself, that the beneficial action of the silico-fluoride of ammonium as a manure is due to the highly nutritious products of its decomposition in soils; as an insecticide, to the fact that it directly attacks and combines with the substances out of which insects are formed.—W. M.

SHOWS.

HITCHIN.—JULY 5TH.

THE annual show was held in glorious weather, and, as usual here, the Roses were the mainstay of the exhibition. The entries in the large classes were hardly as numerous as last year, but the local competitors were much keener than usual.

Three competitors staged for the premier Rose class, which consisted of forty-eight trusses, distinct. Messrs. Harkness & Son, Bedale and Hitchin, were first with good fresh boxes. The varieties were—back row: Etienne Levet, Caroline Testout, Camille Bernardin, Mons. Noman, Ulrich Brunner, Kaiserin Augusta Victoria, Gustave Piganeau, Her Majesty, Captain Hayward, Madame Montet, Comtesse d'Oxford, Souvenir d'Elise Vardon, François Michelin, Pride of Waltham, John Pawle, and Mrs. J. Laing. Middle row: Merveille de Lyon, Earl Dufferin, Madame Hoste, Annie Laxton, Medea, Duchesse de Morny, Catherine Mermet, Heinrich Schultheis, Mrs. Sandford, Marie Baumann, The Bride, Louis Van Houtte, Maréchal Niel, S. M. Rodocanachi, Madame Cusin, and La France; while the front row was represented by Souvenir d'un Ami, Viscountess Folkestone, Charles Darwin, Marchioness of Londonderry, Mrs. W. J. Grant, Rubens, Madame G. Luizet, Marie Van Houtte, Madame E. Verdier, Innocente Pirola, Duke of Fife, Hon. E. Gifford, Alfred Colomb, Maman Cochet, Dupuy Jamain, and Anna Ollivier. Messrs. Burrell & Co., Cambridge, were second with good flowers of Lady Mary Fitzwilliam, Her Majesty, La France, Madame E. Verdier, Caroline Testout, Robert Duncan, Mrs. J. Laing, Gustave Piganeau, Souvenir d'Elise Vardon, Kaiserin Augusta Victoria, and Helen Keller, while Messrs. G. & W. H. Burch, Peterborough, were third.

The same number of entries were staged for twelve blooms, six dark and six light, Messrs. Harkness & Son were well ahead with good Captain Hayward and Mrs. John Laing. Messrs. G. & W. H. Burch were second with Ulrich Brunner and good Kaiserin Augusta Victoria; and the Rev. W. H. Jackson, Stagsden Vicarage, Bedford, third with Captain Hayward and Caroline Testout.

Coming to the Tea and Noisette classes we found stronger competition, but Messrs. Harkness & Son were still to the fore, with a bright, clean exhibit. The varieties were Madame Hoste, Maman Cochet, Marie Van Houtte, Niphotos, Souvenir d'Elise, Madame de Watteville, Souvenir d'un Ami, Hon. E. Gifford, Catherine Mermet, Maréchal Niel, Cleopatra, The Bride, Etoile de Lyon, Anna Ollivier, Jules Finger, Madame H. Jamain, Caroline Kuster, and Corinna. Messrs. Burrell & Co. obtained the second prize with rather smaller blooms. The best were Bridesmaid, Madame Cusin, Niphotos, Madame Hoste, and Catherine Mermet; while the Rev. W. H. Jackson was third with clean fresh flowers.

In the class for eighteen single trusses the entries dropped to two, but both were good. Mr. E. B. Lindell, Bearton, Hitchin, secured the first position with an even display. The varieties were La France, Gustave Piganeau, White Lady, François Michelin, Mrs. S. Crawford, Ulrich Brunner, Prince Arthur, Her Majesty, Earl Dufferin, Madame Hoste, Marie Baumann, Marchioness of Londonderry, S. M. Rodocanachi, Louis Van Houtte, Viscountess Folkestone, Duo d'Orleans, Merveille de Lyon, and Helen Keller; the Rev. W. H. Jackson proved a good second. His best blooms were La France, Kaiserin Augusta Victoria, Her Majesty, Corinna, and Madame Gabriel Luizet.

In the class for twelve Teas or Noisettes, the Rev. W. H. Jackson was able to turn the tables on Mr. E. B. Lindell with a good even twelve. The varieties were Bridesmaid, Souvenir d'Elise, Maman Cochet, Souvenir de S. A. Prince, Elise Fugier, Comtesse de Nadailac, The Bride, Ethel Brownlow, Catherine Mermet, Madame Hoste, Madame Cusin, and Ernest Metz. In Mr. Lindell's box there were good representative flowers of The Bride, Anna Ollivier, Caroline Kuster, and Madame Hoste.

The growers of less than 1000 plants staged three boxes in the class for twelve blooms, distinct. Mr. W. O. Times, Hitchin, was placed first with a good stand. The varieties were Marie Baumann, Mrs. J. Laing, Captain Hayward, François Michelin, Mrs. S. Crawford, Dr. Andry, Marchioness of Londonderry, Alfred Colomb, Gustave Piganeau, Innocente Pirola, Tom Wood, and Madame Cusin. Mr. W. Kingston, Bedford, was a close second with typical flowers of Ulrich Brunner, Mrs. J. Laing, François Michelin, and Madame Hoste; while Mr. G. Moules, Hitchin, brought up the rear.

The class for six Teas or Noisettes proved to be the most popular as far as the competitors were concerned, but Mr. A. F. Albon, Hitchin, outdistanced the others with a fine exhibit. His blooms were Catherine Mermet, The Bride, Anna Ollivier, Madame Hoste, Caroline Kuster, and Marie Van Houtte. Mr. W. O. Times followed with good flowers of Francisca Kruger, Souvenir de S. A. Prince, and The Bride; and Mr. J. T. Hunt third.

There were eleven competitors for six trusses, distinct, Mr. Moules being first with a grand six. The varieties were Mrs. J. Laing, Marie Baumann, Caroline Testout, Madame Hoste, Catherine Mermet, and The Bride. Mr. J. T. Hunt was second with good blooms of The Bride and Mrs. J. Laing; while Mr. H. Hunt was third. For six trusses, one variety, Mr. W. Kingston was first with good blooms of François Michelin. Mr. G. Moules was second with Mrs. J. Laing; and Rev. W. H. Jackson third. For six Teas or Noisettes, one variety, the Rev. W. H. Jackson was first with Souvenir de S. A. Prince; Mrs. Moulden followed with the Hon. Edith Gifford; and Mr. W. Kingston third with Caroline Kuster. The medal for the best Hybrid Perpetual

in the amateur section was taken by Mrs. Moulden with a grand bloom of Mrs. J. Laing, and Mr. J. T. Hunt secured a similar distinction with a bloom of The Bride.

Messrs. Harkness & Son staged an interesting display of garden Roses, chief of which were Papa Gontier, Gustave Regis, Perle d'Or, Bardou Job, Alister Stella Gray, and Rainbow.

IPSWICH.—JULY 5TH.

“I HAVE often in past years pointed out the very great advantage held by the Ipswich and East of England Horticultural Society in being able to utilise for the locale of their summer show the splendid private park existing in the heart of the town. But now that, to the immense benefit of the inhabitants in general, the park has become public property, the Town Council have not hitherto seen their way to close it to the public by letting it to the Society for the day. Why, further, the show was not held in the Arboretum, an adjunct of the park, as it has been for two or three years, was not so easy to understand. At all events it seemed a great pity to hold it in what is to all intents and purposes a field, if anything in the shape of a park or garden be available. The day was fine and the attendance good.

The other arrangements were admirable, especially the one large marquee formed of four meeting together in a cross, which was used last year. The four departments—Roses, other flowers, vegetables, and fruit—had each an arm of the cross to itself, and yet the whole show was under one roof. The best Judges were provided:—Messrs. G. Jordan, H. Fisher, H. Turner, H. Cutbush, and J. R. Chard, and all worked smoothly.

The Exhibition suffered as a Rose show considerably, not only from the season—now acknowledged to be a bad one—but also from the unfortunate circumstance that the Provincial Show of the N.R.S. was close by, at Colchester, on the next day, thus preventing some exhibitors—notably Mr. B. R. Cant—from attending. In his absence Messrs. D. Prior & Sons were easily first in thirty-six Roses, having among their best flowers White Lady, Her Majesty, François Michelon, Gustave Piganeau, Kaiserin Augusta, and a very good bloom of the new H.T., Madame Cadeau Ramey. This was like a large open specimen of The Bride, and it certainly should be a good show Rose if it will often come like that. Messrs. F. Cant & Co. were second with considerably weaker blooms; and Mr. R. C. Notcutt third. In twelve trebles the same order was preserved, Messrs. Prior having Marchioness of Downshire and Maman Cochet in good form, and Mr. F. Cant showing good triplets of Gabriel Luizet and Marquise Litta. For twelve Teas (open) the positions were reversed, Mr. F. Cant taking the first place, and showing Bridesmaid, Maréchal Niel, and Maman Cochet finely; Messrs. Prior's best blooms being The Bride and Maman Cochet. Mr. Notcutt was third, and showed a good Medea. In six similar H.P.'s or H.T.'s Messrs. Prior were first with Her Majesty, Mr. F. Cant second with Mrs. W. J. Grant, and Mr. G. Gilbert third with Mrs. J. Laing. In six similar Teas Messrs. Prior were again first with Maman Cochet, very fine, good enough to win anywhere, and Mr. Frank Cant second with Souvenir de S. A. Prince, suffering by the comparison.

In garden Roses, six bunches, Mr. F. Cant was first, and Lady North second. In the amateur classes H.P.'s were very weak, and the competition not strong, first prize labels showing a strong tendency to adhere to the same exhibitor's cards. In twenty-four Roses Rev. A. Foster Melliar was first, but a really good bloom was difficult to find in his stand. Marie Verdier, S. M. Rodocanachi, and Kaiserin Augusta were perhaps his best. Rev. A. C. Johnson, of Capel, was a decidedly good second, showing Gabriel Luizet, S. M. Rodocanachi, and Mrs. John Laing well. Rev. H. A. Berners was third, with Baroness Rothschild and La France as his best flowers. In six trebles Mr. Foster Melliar was first with a “baddish” box, Kaiserin Augusta being the best; and Mr. Berners second. In twelve Roses Mr. Foster Melliar was again first, having good blooms of Gustave Piganeau and Viscountess Folkestone. Mr. Johnson second with smaller blooms; and Mr. Berners third.

In twelve Teas the standard was much higher, Mr. Foster-Melliar gaining the first prize with a good stand. The silver medal of the Chemical Union for the best Rose in amateur stands was awarded to The Bride in this class, but the winner, who was deputed to put up the medal card, thought the next bloom to it, Muriel Grahame, considerably better, and I fear the card rather hovered between the two. Presumably, the public, having “paid their money,” had to “take their choice” between the two: well, a little discussion on such a matter would not be without interest to them. There was also here a fine Maman Cochet. Mr. Berners was second with a stand which would have been much better if the blooms had been properly and legitimately opened. Maman Cochet, Comtesse de Nadaillac, and Souvenir de S. A. Prince were his best. Third prize not awarded.

In six similar H.P.'s or H.T.'s Mr. Foster-Melliar was first with Marquise Litta, large and coarse; Mr. Berners second with Margaret Dickson, and Mr. Johnson third with Mrs. Sharman Crawford. In six similar Teas Mr. Foster-Melliar was first with Anna Olivier, Mr. Berners second with the same, and Mr. Johnson third with Edith Gifford. In a class of twelve Roses for plants given by Messrs. Prior Mr. F. Corder was first and Mr. Foster-Melliar second. Other local and smaller classes were creditably filled, considering the season. Herbaceous plants were good. Mr. Cutbush showed a quantity of Carnations, and the new Rde Sunrise, said to be a “grand sport”—that is, a sport of Sunset, which is itself a sport of Perle des Jardins. It is very distinct and pretty.—W. R. RAILLEN.

REIGATE.—JULY 5TH.

REIGATE Show was a good one as regards quality of blooms staged, but nearly all exhibits showed the result of the frosts and biting winds which prevailed in May, at the very delicate state of growth; the darker varieties suffered by far the most.

Messrs. Frank Cant & Co., Colchester, were awarded the premier honour in the open to all class for thirty-six varieties, and were the only exhibitors, owing to others preparing for Colchester. Twenty-four varieties, open to all amateurs.—First, Col. Pitt, but F. W. Campion, Esq., had the medal for best bloom. H.P. Marchioness of Londonderry; R. E. West, Esq., had the best Tea Comtesse de Nadaillac. F. W. Campion, Esq., was first for garden Roses, in which the blooms were very fresh and bright; he also was first in the classes for growers of any number of plants for twelve Teas and triplets.

Next came the Reigate Challenge cup for twenty-four varieties. This was very close, as Mr. R. E. West only just won it by one point—having the medal bloom helped this exhibitor. Mr. P. G. C. Burnand was very close, only a few of his flowers were a little rough; third place was taken by Colin Romaine, Esq., of Windsor. Mr. P. G. C. Burnand was first for twelve Teas, and first for six triplets and twelve one variety. Mr. West came next for Teas and one variety. G. A. Hammond, Esq., was first for twelve varieties; F. C. Pawle, Esq., and W. D. Fresh-



FIG. 11.—*PHALÉNOPSIS LUDDE-VIOACEA*.
(Hybrid from *P. Luddemanniana* and *P. violacea*.)

field, Esq., equal second. The last named was first for nine varieties Teas, and Mr. G. A. Hammond first for six, one variety. Mr. E. Dawson was first for six varieties. This was a pretty box, and he ought to come along another year.

Taken all round it was a capital little show, but of course the Colchester fixture interfered with it sadly.

HANLEY.—JULY 5TH AND 6TH.

THE third annual Exhibition was held July 5th and 6th in Hanley Park, and was in every way a glorious success. The exhibition itself was a record one, the attendance and the weather being everything one could wish for. The arrangements for the exhibitors were perfect, the credit of which is due to Mr. Joseph Kent, the popular Hon. Secretary and Superintendent of Parks. He has worked very hard to make this show a great success, and that he has succeeded is beyond doubt, and we trust the young society will have a prosperous career.

One of the principal features of the show was the groups arranged for effect, 300 square feet, the honours of which fell to Mr. Peter Blair, Trentham Gardens; second, Mr. Cypher; third, Mr. Mee of Nottingham; fourth, Mr. Roberts, Oswestry. The first prize group was beautifully arranged, Orchids predominating, which had a pleasing effect.

Orchids were well shown. A splendid collection well arranged was shown by W. Thompson, Esq., of Stone (gardener, Mr. Stevens), which secured first for the 100-feet group. Mr. Peter Blair was well to the fore for eight specimen Orchids in division I., first in division II. for six specimens. He also carried off the first for the 100-feet group of Carnations arranged for effect. Stove and greenhouse flowering and foliage were grandly shown, Mr. Cypher taking the leading award.

Roses, considering the season, were good, leading honours going to Messrs. Dickson & Sons, Newtownards, Belfast. The cut flowers and floral design brought keen competition and numerous entries.

Fruit and vegetables included grand examples of cultivation. Grapes shown by Mr. Goodacre, Elvaston Gardens, Derby, and Mr. Melndoe, were well finished, the former taking first for dinner table, 8 feet by 4, decorated with foliage, flowers and fruit, and first for ten dishes, first for two bunches Black Hamburgs, and first for Pines.

Nurserymen's and trade exhibits formed a most attractive display. Messrs. Veitch & Sons had a splendid group of foliage and flowering new

and rare plants; Messrs. Hill, White, Cutbush, P. Barr, Dickson, and Eckford showing in their usual style. Mr. H. Walters, Eastwell Gardens, Ashford, received a gold medal for a collection of Melons, and a first-class certificate for his new Carnation Lady Gerard. We append prizewinners in the open classes.

PLANTS—For a group of plants arranged for effect, in or out of bloom, not to exceed 300 square feet.—First, the Duke of Sutherland; second, Mr. Cypher, Cheltenham; third, C. J. Mee, Floral Depot, Nottingham; fourth, Miss Wright, Oswestry. Group of Orchids, in bloom, arranged for

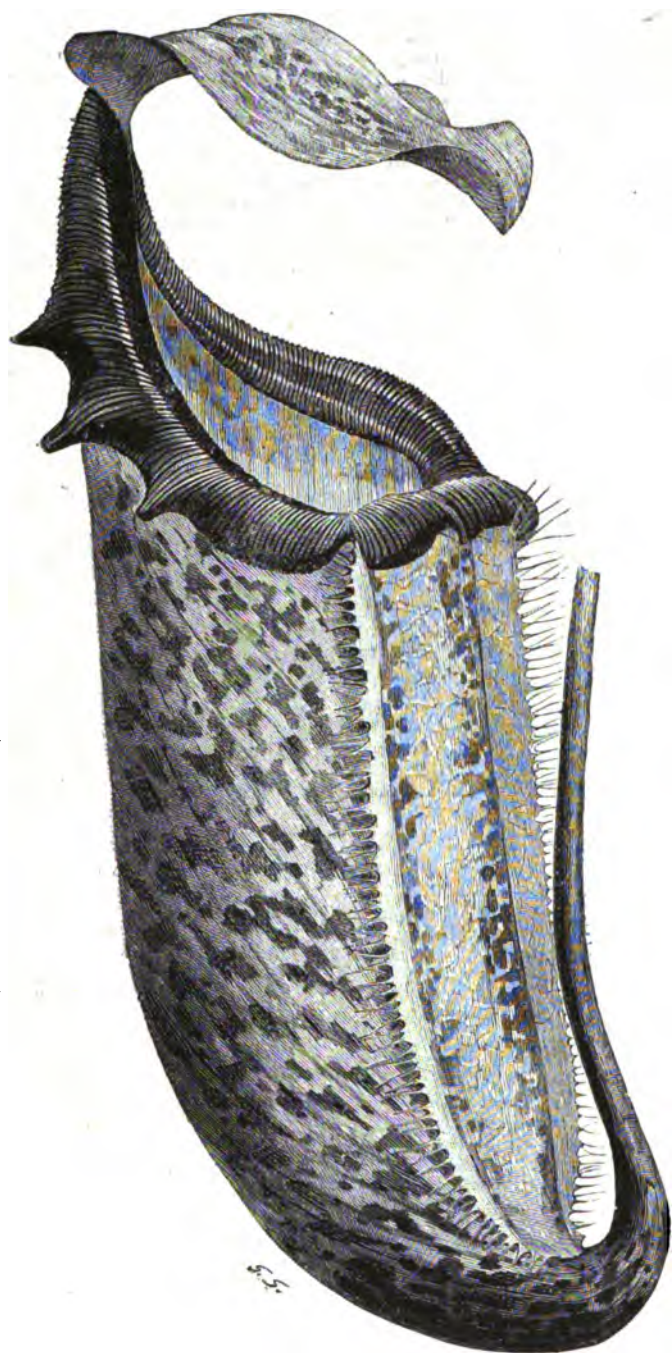


FIG. 12.—*NEPENTHES MIXTA*.

(Hybrid from *N. Curtisii* and *N. Northiana*.)

effect, not to exceed 100 square feet, Ferns and foliage plants optional.—First, Mr. W. Thompson, Walton Grange, Stone; second, Mr. Cypher; third, J. Robson, Altrincham. Group of Malmesbury Carnations in pots, not to exceed 100 square feet, arranged for effect, Ferns and other plants optional.—First, the Duke of Sutherland; second, the Earl of Harrington, Elvaston Castle, Derby; third, A. J. A. Bruce, Edge Lane Nurseries, Chorlton-cum-Hardy, Manchester. Six exotic Ferns.—First, B. Howson, Newcastle; second, Miss Wright, Halston, Hall, Oswestry. Six plants in flower, distinct, and six fine foliage plants, distinct.—First, Mr. Cypher, Cheltenham; second, Mr. Vause, Leamington Spa. Eight exotic Orchids, distinct.—First, Duke of Sutherland; second, Mr. Cypher; third, Mr. J. Robson.

ROSES—Forty-eight distinct varieties.—First, Messrs. A. Dickson and Sons, The Nurseries, Newtownards; second, Messrs. Townsend & Sons,

Lower Broad Heath, Worcester; third, Perkins & Son, nurserymen, Coventry. Thirty-six distinct varieties, three blooms of each variety.—First, Messrs. A. Dickson & Sons, Newtownards; second, Messrs. Townsend and Son, Worcester. Twenty-four distinct varieties.—First, Messrs. A. Dickson & Sons, Newtownards; second, Messrs. Perkins & Son, Coventry; third, Messrs. Townsend & Son, Worcester. Twelve distinct varieties.—First, Messrs. Dickson & Sons, Newtownards; second, J. R. Pearson & Sons, Notts; third, Messrs. Perkins & Son, Coventry. Twelve distinct Teas, three blooms of each.—First, Messrs. Townsend & Son, Worcester; second, J. R. Pearson & Sons, Notts; third, S. Palmer, Blackfriars Road, Newcastle.

CUT FLOWERS—Display of floral arrangement not to exceed 20 feet by 5 feet, any flowers admissible, open to nurserymen.—First, Messrs. Jenkinson & Son, Newcastle; second, Mr. Vause, Leamington; third, Messrs. Hodgkins & Co., 5, Beaufort Avenue, Manchester. Collection of hardy flowers, 12 feet by 4 feet, nurserymen excluded.—First, J. C. Waterhouse, Macclesfield. Best arranged basket of flowers.—First, Messrs. Jenkinson & Son, Newcastle. Best bouquet for the hand.—First, Messrs. Jenkinson & Son, Newcastle. Best ball bouquet and bridal bouquet.—First, Messrs. Jenkinson & Son, Newcastle. Collection of twelve varieties of Sweet Peas.—First, V. B. Johnston, Wolverhampton; third, Earl of Harrington. Stand of cut flowers for table decoration, not to exceed 18 inches diameter at the base.—First, J. C. Waterhouse, Collar House, Prestbury, Macclesfield; second, Messrs. Hodgkins & Co., Manchester; third, Messrs. Jenkinson & Son, Newcastle. Dinner table, 8 feet by 4 feet, decorated with flowers, foliage, and fruit, to consist of not more than twelve dishes, in not less than eight distinct kinds, and not more than two varieties of a kind.—First, Earl of Harrington; second, Sir J. W. Pease, Guisborough; third, W. Edmonds, Bestwood Garden, Arnold, Notts; fourth, J. Dove, Sunny Side, Tansley, Matlock. Collection of hardy flowers, 12 feet by 4 feet.—First, H. Deverill, Banbury, Oxford.

FRUIT AND VEGETABLES—Collection of ten dishes of fruit, in not less than six kinds, not more than two varieties of a kind; to include black and white Grapes, two bunches of each; Pines excluded.—First, Earl of Harrington; second, Lord Bagot; third, Sir J. W. Pease, Bart., M.P., Hutton Hall, Guisborough, Yorks; fourth, Duke of Sutherland. Two bunches of Black Hamburgh Grapes.—First, Earl of Harrington; second, A. Ruddock, Tanybryn, Bangor; third, Sir J. W. Pease, Guisborough. Two bunches black Grapes, any other variety.—First, J. C. Waterhouse, Prestbury; second, Mr. Edmonds, Arnold; third, the Earl of Shrewsbury, Ingestre, Stafford. Two bunches of White Muscat Grapes.—First, Sir J. W. Pease; second, Earl of Harrington; third, T. Bolton, Light Oaks, Oakmoor. Two bunches Grapes, any other variety, white.—First, J. C. Waterhouse, Prestbury; second, T. Bolton, Oakmoor; third, the Earl of Carnarvon, Brethly. Two Pines.—Second, Earl of Harrington; no first awarded; no other exhibitor. Six Peaches.—First, Lord Bagot; second, T. Bolton, Oakmoor; third, J. D. Ellis, Worksop, Notts. Six Nectarines.—First, the Duke of Sutherland; second, Mr. Edmonds, Arnold; third, J. D. Ellis. One Melon, green-fleshed.—First, Sir J. W. Pease; second, J. C. Waterhouse, Prestbury; third, Earl of Harrington. One Melon, scarlet-fleshed.—First, the Earl of Shrewsbury, Ingestre; second, the Duke of Sutherland; third, Earl of Harrington. One dish, eight Figs.—First, Lord Bagot; third, Earl of Harrington. One dish, fifty Cherries.—First, Duke of Sutherland; second, Earl of Harrington; third, J. D. Ellis, Worksop. One dish, twenty-five Strawberries.—First, Mr. Edmonds, Arnold; second, J. Baker, Old Basford; third, the Earl of Shrewsbury, Ingestre.

Twelve Tomatoes.—First, the Earl of Carnarvon; second, J. C. Waterhouse, Prestbury; third, Mr. Edmonds, Arnold; fourth, A. Ruddock, Bangor. Collection of nine dishes of distinct kinds of vegetables.—First, Lady Theodore Guest; second, the Earl of Carnarvon; third, J. Baker, Old Basford; fourth, T. Bolton, Oakmoor. One dish of six Kidney Potatoes.—First, the Earl of Carnarvon; second, the Duke of Sutherland; third, Lady Theodore Guest. One dish of six Round Potatoes.—First, the Earl of Carnarvon; second, Lady Theodore Guest; third, J. Baker, Old Basford. Brace of Cucumbers.—First, J. Baker, Old Basford; second, W. Pyatt, Penkull Street, Newcastle; third, J. C. Waterhouse, Prestbury. Two Vegetable Marrows.—First, J. Baker, Old Basford; second, Lady Theodore Guest. Twenty-four pods of Peas.—First, Lady Theodore Guest; second, the Earl of Carnarvon; third, T. Bolton, Oakmoor. Twenty pods of Broad Beans.—First, J. Baker, Old Basford; second, the Earl of Carnarvon; third, Lady Theodore Guest. Twenty pods of French Beans.—First, J. Baker, Old Basford; second, Lady Theodore Guest; third, the Duke of Sutherland. Twelve Spring Onions.—First, Lady Theodore Guest; second, J. Baker, Old Basford. Twelve Autumn Onions.—First, Lady Theodore Guest; second, J. Baker, Old Basford; third, J. C. Waterhouse, Prestbury. Six Carrots.—First, Lady Theodore Guest; second, the Earl of Carnarvon.

COLCHESTER.—JULY 6TH.

THERE could hardly be found a more fitting centre for the National Rose Society to hold its provincial show than Colchester. There seemed to be a feeling in the Rose growing community that Colchester would be the Rose show of the year, and so it proved to be. The general quality of the flowers was decidedly above the Palace average, but one expected to see a greater competition than was evinced in many of the classes. One might also say there was a grand display of rosarians present, for all the leading lights in the Rose world were there. The

competition for the Jubilee trophy was keenly contested, and a great amount of interest was centred in the class.

First, Mr. B. R. Cant, Colchester, with a grand exhibit. The varieties were Alfred Colomb, Madame E. Verdier, Marie Baumann, Marchioness of Dufferin, Dupuy Jamain, La France, Ulrich Brunner, Marchioness of Londonderry, Marquise Litta, Her Majesty, Gustave Piganeau, and Mrs. J. Laing in the back row. The middle row were White Lady, Etienne Levet, Maman Cochet, Crown Prince, The Bride, Helen Keller, Mrs. S. Crawford, Prince Arthur, Innocente Pirola, Earl of Dufferin, Muriel Grahame, and Comtesse de Ludre. In the front row were Mrs. W. J. Grant, Mrs. Cocker, Dr. Andry, Comtesse de Nadaillac, Madame Cusin, Bridesmaid, Tom Wood, Golden Gate, Duchesse de Morny, Madame de Watteville, E. Y. Teas, and Catherine Mermet; Messrs. D. Prior and Son, Colchester, came second with good blooms of The Bride, Catherine Mermet, Souvenir d'Elise, Innocente Pirola, A. K. Williams, Marie Baumann, Her Majesty, Mrs. J. Laing, Maman Cochet, Mrs. W. J. Grant, Bridesmaid, Gustave Piganeau, and Marie Verdier; and Messrs. Harkness & Sons, Bedale, were third with typical flowers of Her Majesty, Ulrich Brunner, François Michelin, Madame Hoste, Mrs. J. Laing, Alfred Colomb, Maman Cochet, and Souvenir d'Elise.

There were three competitors in the class for seventy-two distinct varieties. Here again Mr. B. R. Cant proved to be invincible, and again secured the first place with a beautifully fresh exhibit. The varieties were Marie Baumann, Marchioness of Dufferin, Earl of Dufferin, Madame Engène Verdier, Ulrich Brunner, Marie Finger, Helen Keller, Her Majesty, Général Jacqueminot, Marchioness of Londonderry, Countess of Caledon, Muriel Grahame, Gustave Piganeau, Pride of Waltham, Dr. Andry, La France, Maurice Bernardin, White Lady, Marquise Litta, Mrs. S. Crawford, François Michelin, Mrs. Cocker, Tom Wood, and Mrs. John Laing were in the back row. In the second row were Heinrich Schultheis, Marie Rady, Duchesse de Valambrosa, Comtesse d'Oxford, Catherine Mermet, Chas. Lefebvre, Madame de Watteville, E. Y. Teas, Kaiserin Augusta Victoria, Madame Cusin, Medea, Souvenir d'un Ami, Prince Arthur, The Bride, Duchesse de Morny, Madame Hoste, Abel Carrière, Ernest Metz, Duke of Edinburgh, Margaret Dickson, A. K. Williams, Bridesmaid, and Alfred Colomb. The front row flowers were Madame Cadeau Ramey, Lady Mary Fitzwilliam, La Fraicheur, Maréchal Niel, Crown Prince, Marie Van Houtte, Auguste Rigotard, Madame Gabriel Luizet, Camille Bernardin, Golden Gate, Fisher Holmes, Anna Ollivier, Chas. Lamb, Beauté Lyonnaise, Louis Van Houtte, Innocente Pirola, J. S. Mill, Comtesse de Nadaillac, Le Havre, Souvenir de S. A. Prince, Duke of Wellington, Cleopatra, Beauty of Waltham, and Maman Cochet. Messrs. F. Cant & Co., Colchester, were a close second with a beautiful exhibit. The best blooms were Gustave Piganeau, Duke of Connaught, Catherine Mermet, Marie Baumann, Kaiserin Augusta Victoria, La France, Marie Finger, Clio, Charlotte Guillemot, White Lady, Mrs. W. J. Grant, Mrs. J. Laing, and Ernest Metz. The other exhibitor was disqualified through not exhibiting according to schedule.

The two Colchester firms contested in honours for thirty-six trebles, and made a brave show. The first honours, however, fell to Mr. B. R. Cant with a grand exhibit. The varieties were Her Majesty, Ulrich Brunner, Madame de Watteville, Helen Keller, Innocente Pirola, Mrs. S. Crawford, Medea, Gustave Piganeau, Mrs. Cocker, Marquise Litta, White Lady, Duke of Wellington, Madame G. Luizet, Madame Cusin, Countess of Caledon, S. M. Rodocanachi, La France, Earl of Dufferin, Tom Wood, Golden Gate, Duchesse de Morny, Merveille de Lyon, Camille Bernardin, Catherine Mermet, Dupuy Jamain, Marchioness of Dufferin, Marie Baumann, Mrs. J. Laing, Caroline Testout, Bridesmaid, Mrs. W. J. Grant, Muriel Grahame, A. K. Williams, Souvenir de S. A. Prince, Jeanie Dickson, and Marchioness of Londonderry. Messrs. F. Cant & Co.'s second prize stand was especially strong in Teas and Hybrid Teas. The best triplets were Mrs. W. J. Grant, Mrs. R. S. Crawford, Jeanie Dickson, Tom Wood, A. K. Williams, Ulrich Brunner, Star of Waltham, Mrs. J. Laing, Captain Hayward, Charlotte Guillemot, Kaiserin Augusta Victoria, Caroline Testout, and François Michelin.

In the class for thirty-six blooms, distinct, there were four competitors, another Colchester firm, Messrs. D. Prior & Son, leading with a clean bright stand. The varieties were Mrs. J. Laing, Gustave Piganeau, Lady Mary Fitzwilliam, Marie Verdier, Marchioness of Londonderry, Prince Arthur, Maman Cochet, François Michelin, Caroline Testout, Marie Baumann, Kaiserin Augusta Victoria, Ulrich Brunner, Oscar Cordel, La France, Star of Waltham, Baroness Rothschild, Tom Wood, Marchioness of Downshire, Alfred Colomb, Pride of Waltham, Marquise Litta, Marchioness of Dufferin, Mrs. W. J. Grant, Her Majesty, Merveille de Lyon, Beauty of Waltham, Marie Finger, Abel Carrière, Augustine Guinoiseau, Camille Bernardin, Countess of Caledon, Général Jacqueminot, Madame G. Luizet, Helen Keller, Souvenir de Madame E. Verdier, and A. K. Williams; while Messrs. G. & W. H. Burch, Peterborough, were second with good blooms of Ulrich Brunner, Marquise Litta, La France, A. K. Williams, Jeanie Dickson, Mrs. W. J. Grant, Mrs. S. Crawford, Kaiserin Augusta Victoria, and Gustave Piganeau; Messrs. J. Burrell & Co., Cambridge, were third with smaller though bright flowers.

There were five competitors for the eighteen trebles, Messrs. D. Prior and Son leading with a very strong exhibit. The varieties were Mrs. J. Laing, Gustave Piganeau, Kaiserin Augusta Victoria, Ulrich Brunner, Marchioness of Londonderry, Prince Arthur (grand), White Lady, Marquise Litta, Her Majesty, Marie Baumann, Merveille de Lyon, Abel Carrière, Mrs. S. Crawford, Tom Wood, Mrs. W. J. Grant, Prince Camille de Rohan, Baroness Rothschild, and A. K. Williams. Mr. Chas. Turner, Slough, was second with a good display, but the flowers were much

smaller; the best were Ulrich Brunner, Duke of Wellington, Marchioness of Londonderry, and Comtesse de Nadaillac; and Messrs. G. & W. H. Burch were third.

For twenty-four blooms, distinct, Messrs. Paul & Son, Cheshunt, were easily ahead with a strong exhibit. The varieties were Her Majesty, Captain Hayward, Mrs. J. Laing, Gustave Piganeau, Marchioness of Londonderry, Ulrich Brunner, Madame de Watteville, Madame G. Luizet, Tom Wood, Maman Cochet, S. M. Rodocanachi, Comtesse de Nadaillac, Comtesse de Ludre, Kaiserin Augusta Victoria, Sultan of Zanzibar, Mrs. S. Crawford, Lawrence Allen, Victor Hugo, Mrs. W. J. Grant, Marquise Litta, Maréchal Niel, Horace Vernet, Mlle. Marie Verdier, and Maurice Bernardin; Mr. G. Prince, Oxford, was third.

Messrs. F. Cant & Co. were to the fore in the class for twenty-four Teas and Noisettes with a clean bright stand. The varieties were

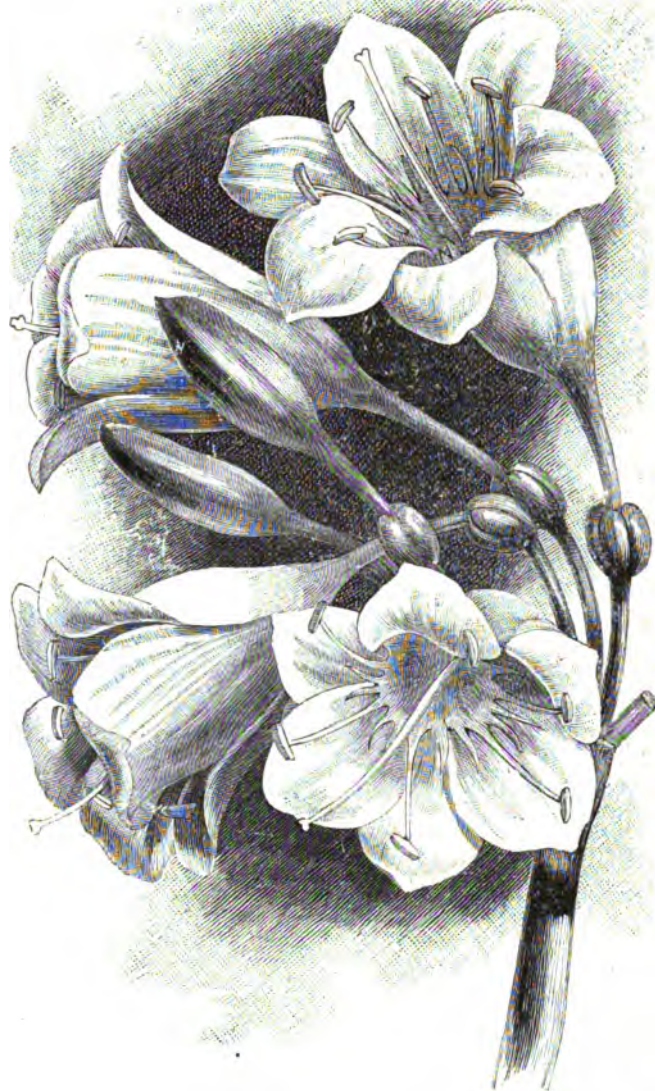


FIG. 13.—URCEOCHARIS CLIBRANI.

(Bigeneric hybrid from *Eucharis grandiflora* (amazonica) and *Urceolina pendula*.)

Madame de Watteville, Muriel Grahame, Souvenir d'un Ami, Souvenir de S. A. Prince, Madame Cusin, The Bride, Catherine Mermet, Medea, Golden Gate, Madame Hoste, Maréchal Niel, Cleopatra, Bridesmaid, Innocente Pirola, Souvenir d'Elise, Sylph, Anna Ollivier, Ernest Metz, Jules Finger, Comtesse de Nadaillac, Hon. Edith Gifford, Marie Van Houtte, and Ethel Brownlow. Mr. B. R. Cant was second with good blooms of Bridesmaid, Ernest Metz, Madame Cusin, Medea, Innocente Pirola, and Mrs. P. Morgan; while Mr. G. Prince, Oxford, was third.

The twelve class for Teas and Noisettes did not appear to bring out a strong competition. Messrs. Harkness & Sons were placed first with a good box containing Maman Cochet, Maréchal Niel, Catherine Mermet, Niphetos, Innocente Pirola, Madame Cusin, Madame Hoste, Souvenir d'Elise, Madame de Watteville, Madame Willermoz, Princess Beatrice, and Souvenir d'un Ami. Messrs. J. Burrell & Co. were second with smaller blooms, which included good examples of Cleopatra, Souvenir d'un Ami, Muriel Grahame, and Amazone; and Mr. A. G. Green, Great Horkeley, Colchester, third.

Messrs. F. Cant & Co. secured the first prize for twelve of the newer Roses, with Mrs. F. Cant, Tom Wood, Madame C. Ramey, Marguerite Appert, Mrs. F. W. Sandford, Antoine Rivoire, Robert Duncan, Ellen Drew, Countess of Caledon, Beauté Lyonnaise, Empress Alexandra of Russia, and Muriel Grahame. Mr. B. R. Cant was a close second with good flowers of Killarney, Tom Wood, Rev. Alan Cheales, Mrs. Sandford, and Ellen Drew, and Messrs. Paul & Son third.

For twelve blooms, any white Rose, Messrs. Paul & Son staged a grand dozen of Marchioness of Londonderry. Mr. B. R. Cant was second with White Lady, and Messrs. D. Prior & Son brought up the rear with Merveille de Lyon. In a similar competition for yellow Roses Mr. G. Prince was first with Comtesse de Nadaillac, Mr. B. R. Cant followed with Marie Van Houtte. The other exhibitors had their own idea of a yellow Rose, which did not agree with that of the Judges, and they were consequently passed.

There was a keen contest for twelve pink or rose varieties, Mr. B. R. Cant winning first with a grand box of Mrs. J. Laing. Messrs. Harkness & Sons were second with the same variety, and Messrs. F. Cant and Co. were third with good Mrs. W. J. Grant. For twelve light or dark crimson Roses Mr. B. R. Cant was first with an excellent box of Gustave Piganeau; Messrs. D. Prior & Son were second with Ulrich Brunner, and Messrs. G. & W. H. Burch were third.

In the class for twelve trebles, Teas or Noisettes, four growers staged, but Mr. B. R. Cant again proved the victor. The varieties were Catherine Mermet, Maman Cochet, Madame Cusin, Madame de Watteville, Golden Gate, Souvenir d'un Ami, The Bride, Comtesse de Nadaillac, Souvenir de S. A. Prince, Souvenir d'Elise, and Bridesmaid. Mr. F. Cant was second with good examples of Comtesse de Nadaillac, Maréchal Niel, Catherine Mermet, Bridesmaid, and Cleopatra, and Messrs. D. Prior & Son third.

There were two competitors for the garden Rose class, consisting of eighteen varieties. Messrs. F. Cant & Co. led off with a fine exhibit. The varieties were W. A. Richardson, Reine Olga de Wurtemberg, Crimson Rambler, Hebe's Lip, Bardon Job, L'Idéal, The Garland, Marquis of Salisbury, Madame Falcot, Laurette Messimy, Madame Paul Ducher, Madame Chedane Guinoiseau, Camoens, Ma Capucine, Rainbow, Gustave Regis, and Souvenir de Catherine Guillot. Messrs. Paul & Son were second with good bunches of Royal Scarlet, Marquis of Salisbury, Blanche Moreau, Ma Capucine, and Camoens.

AMATEURS.

The amateur growers turned out in force, and most of them had good material to stage. The leading classes resolved themselves into quite a battle royal between the large growers. The Jubilee trophy had to leave the county, as did also the medal for the large class of Teas and Noisettes.

The competition for the Jubilee Challenge trophy was keenly contested, but the Hertfordshire champion, Mr. E. B. Lindsell, came to the top with a beautiful twenty-four, composed as follows—Her Majesty, Earl Dufferin, La France, Ulrich Brunner, Marchioness of Londonderry, Charles Lefebvre, Mrs. J. Laing, Gustave Piganeau, Marie Baumann, Maman Cochet, Horace Vernet, Muriel Grahame, Prince Arthur, Innocente Pirola, S. M. Rodocanachi, Merveille de Lyon, Mrs. S. Crawford, Capt. Hayward, Comtesse de Nadaillac, François Michelin, Souvenir d'Elise, Madame G. Luizet, White Lady, and Madame E. Verdier. The Rev. J. H. Pemberton, Havering, was second with a pretty display. The best blooms were Horace Vernet, Kaiserin Augusta Victoria, Caroline Testout, Her Majesty, Duchess of Albany, Etienne Levat, Mrs. W. J. Grant, and Maréchal Niel, while the Colchester representative, Mr. O. G. Orpen, had to be content with third place; an extra prize was awarded to Mr. W. Boyce, Derby, for a good box.

The Rev. J. H. Pemberton was able to retaliate on Mr. Lindsell in the class for thirty-six varieties, distinct, with a good clean exhibit. The varieties were Marquise Litta, Marie Baumann, Her Majesty, Helen Keller, Mrs. J. Laing, Marshall P. Wilder, Gustave Piganeau, Madame Victor Verdier, Madame E. Verdier, Earl of Dufferin, Caroline Testout, Général Jacqueminot, Exposition de Brie, Souvenir de S. A. Prince, Victor Hugo, Comtesse de Nadaillac, Horace Vernet, Marchioness of Londonderry, Ulrich Brunner, Madame Hoste, Madame Chas. Crapet, Auguste Rigotard, Comtesse de Paris, The Bride, Mrs. S. Crawford, A. K. Williams, Mrs. W. J. Grant, Beauty of Waltham, Maman Cochet, Duchess of Bedford, Prince Arthur, Le Havre, Kaiserin Augusta Victoria, Chas. Lefebvre, Duchess of Albany, and Comtesse de Ludre. In Mr. Lindsell's second prize stand there were good blooms of Ulrich Brunner, Charles Lefebvre, Her Majesty, A. K. Williams, Marie Baumann, Marie Van Houtte, Cleopatra, and Gustave Piganeau.

There was another duel between Mr. E. B. Lindsell and the Rev. J. H. Pemberton in the class for the eight trebles, but they ended in the order named. Mr. Lindsell's varieties were Marie Baumann, Her Majesty, Ulrich Brunner, Mrs. J. Laing, La France, Madame Cusin, Madame G. Luizet, and Alfred Colomb; while the Essex team included good Kaiserin Augusta Victoria, Mrs. J. Laing, Prince Arthur, Her Majesty, and Caroline Testout. Mr. O. G. Orpen was the only competitor for nine single trusses, any variety except Teas and Noisettes, with a good display of Kaiserin Augusta Victoria.

In the class for eighteen blooms, distinct, Mr. E. Mawley, Berkhamstead, was placed in the first position with a creditable display. The best varieties were Chas. Lefebvre, Her Majesty, Mrs. J. Laing, Ulrich Brunner, Prince Arthur, Comtesse de Nadaillac, and Mrs. E. Mawley; and Mr. S. Morris, Leicester, second with good blooms of Marchioness of Londonderry, Maréchal Niel, Mrs. J. Laing, and Ulrich Brunner. Mr. E. Mawley was the only competitor for six trebles, and was deservedly awarded the first prize. The varieties were La France,

Etienne Levat, Her Majesty, Mrs. E. Mawley, Merveille de Lyon, and Ulrich Brunner. For six blooms, one variety, Mr. E. Mawley was again to the fore with Mrs. J. Laing; and Mr. S. Morris followed with the same variety.

There was a capital contest for twelve Roses, distinct, open to growers of less than one thousand plants. The Rev. A. O. Johnson, Capel St. Mary, proved the victor with a strong box; his blooms were Etienne Levat, La France, S. M. Rodocanachi, Mrs. W. J. Grant, Mrs. J. Laing, A. K. Williams, Mrs. S. Crawford, Duke of Fife, Chas. Lefebvre, François Michelin, Abel Carrière, and Kaiserin Augusta Victoria. Mr. G. Moules, Hitchin, was a close second, and the Rev. F. Page Roberts, Soole, third. Thirteen boxes of six distinct trusses were staged. Mr. J. T. Thompson, Rounds Green, N., proved the winner with a fresh exhibit; the best blooms were Mrs. S. Crawford, Mrs. J. Laing, and Marie Verdier. Mr. R. W. Bowyer, Haileybury College, Hertford, was a good second, while Mr. E. R. Smith, Muswell Hill, brought up the rear.

The Mayor's prize brought out four competitors, and Mr. O. G. Orpen secured it for Colchester with a grand exhibit. The varieties were Her Majesty, François Michelin, La France, Gustave Piganeau, Grand Mogul, Mrs. W. J. Grant, Kaiserin Augusta Victoria, Ulrich Brunner, Marquise Litta, Sylph, Horace Vernet, and The Bride. The Rev. A. Foster-Melliar, Sproughton, was a strong second, and the Rev. J. H. Pemberton third. For four triplets Mr. G. W. Cook, North Finchley, was easily first, showing Mrs. J. Laing, Duke of Fife, S. M. Rodocanachi, and Marchioness of Londonderry. Miss B. H. Langton, Hendon, was second, and the Rev. F. Page Roberts third. For six blooms, one variety, Mr. G. W. Cook, North Finchley, was first with grand Marchioness of Londonderry. Mr. G. H. Baxter, Brentwood, was second with Mrs. J. Laing, and Mr. H. Adamson, Bedale, third with the same variety. The Rev. J. H. Pemberton was first for six new Roses, followed by Messrs. O. G. Orpen and J. Bateman, Highgate.

In the premier class for eighteen Teas or Noisettes, distinct, the Rev. A. Foster-Melliar was first with a splendid box. The varieties were Madame de Watteville, Madame Willermoz, Catherine Mermet, Niphetos (grand), Maman Cochet, Golden Gate, The Bride, Comtesse de Nadaillac, Innocente Pirola, Muriel Grahame, Souvenir de S. A. Prince, Souvenir d'Elise Vardon, Souvenir d'un Ami, Bridesmaid, Marie Van Houtte, Sylph, Corinna, and Hon. Edith Gifford; Mr. O. G. Orpen was second with a weaker display. For nine blooms, one variety, Mr. O. G. Orpen was first with Souvenir de S. A. Prince; the Rev. A. Foster-Melliar followed with Anna Ollivier; and Mr. T. Massey Green, Ardleigh, third with the same variety. For nine blooms, distinct, the Rev. F. Page Roberts again came to the fore with an excellent box. Mr. H. P. Landon was a close second, and Miss B. H. Langton third. The small growers had a good contest for six blooms, distinct. The first prize was won by Mr. R. W. Bowyer, which consisted of the Prince Memorial cup. The Rev. A. C. Johnson was second; and Mr. A. Munt, Slough, third.

Mr. O. G. Orpen added to his successes by winning the first prize in the six trebles with good blooms of Maréchal Niel, Innocente Pirola, Anna Ollivier, and Sylph; and the Rev. A. Foster-Melliar followed with good Comtesse de Nadaillac and Madame Hoste. For six blooms, one variety, Mr. H. P. Landon was first with a good box of Maman Cochet; Miss B. H. Langton second with Comtesse de Nadaillac; and Mr. A. Cant third with Catherine Mermet. The garden Roses were very attractive. In the class for twelve varieties, distinct, Mr. O. G. Orpen was first with a grand exhibit, followed by the Rev. J. H. Pemberton and Mr. H. G. Ezerton Green, Colchester.

The Medal Roses.—The silver medal for the best Hybrid Perpetual in the nurserymen's classes was awarded to a grand bloom of Prince Arthur staged by Mr. B. R. Cant. The same exhibitor secured a similar award for the best Hybrid Tea with a delightful bloom of Mrs. W. J. Grant. Mr. G. Prince, Oxford, gained this distinction in the Tea section for a fine bloom of Maman Cochet.

HEREFORD AND WEST OF ENGLAND.—JULY 8TH.

THE thirty-third annual exhibition (open to the United Kingdom) was held in the Shire Hall, Hereford, on Friday, July 8th, and taking into consideration how unfavourable the season has been for the unchecked and healthy growth of Roses, may be pronounced as highly satisfactory. As one of our leading rosarians truly remarked to your reporter, "If there are some extremely poor and weather-stained Roses, there are many extremely good ones." Undoubtedly the remark was just indeed; the Judges in the professional classes agreed that they had never been called to decide on a more perfect exhibit, either in size, form, or brilliancy, than in the twenty-fours (three of each) in the collection of Messrs. A. Dickson; still, three exhibits in the place of seven last year in the seventy-two varieties, is a great falling off, and throughout the deficiency was proportionately marked, so that, verily, this year of grace, 1899, must be writ large, as a bad year for Roses.

Messrs. Dickson exhibited admirably, and took a leading position in every class open to them to exhibit. The premier seventy-two class (singles) fell to them with the following varieties, greatly enhanced in interest by the large number this firm exhibited of their own exquisite Hybrid Teas, Her Majesty, Helen Keller (superb), Madame Gabriel Luizet, Edward Herre, Mrs. R. G. Sharman Crawford, Ulrich Brunner, Bessie Brown (splendid), Gustave Piganeau, La France, Etienne Levat, Alfred Colomb, Heinrich Schultheis, Caroline Testout (very fine), François Michelin, Robert Duncan, Charles Darwin, Marchioness of Dufferin (grand colour), Marie Rady (magnificent), Mrs. Conway Jones (new and promising), Ernest Schmidt, Earl of Dufferin, A. K. Williams (perfect),

Daisy (new), Duchess of Bedford, Comtesse Serenye, S. M. Rodocanachi, Duchesse de Morny, Prince Arthur (very good), Alice Lindsey (new promising pink), Mackereth (useful, very dark, after Victor Hugo), Anna Ollivier, Dr. André, The Bride, Jeanie Dickson, Alice Grahame (fine), Horace Vernet, Madame Cusin (very good), Louis Van Houtte (splendid colour), Comtesse de Nadaillac, Thomas Mills, Souvenir d'un Ami, Venus, Hottentot (very dark beauty), Maman Cochet, Shannon, Abel Carrière, Souvenir d'Elise (glorious), Abel Grand, Mrs. John Laing, Duc de Rohan, Ulster, Devienne Lamy (good), Lady Myra Beauclerc, Xavier Olibo (brilliant), Mrs. W. J. Grant, Crown Prince, Madame de Watteville, Camille Bernardin (splendid), Kaiserin Augusta Victoria (fine), François Louvat, Duke of Albany, Marquise Litta, Killarney (pretty), Jeanette Scott (very good), Countess of Caledon, Charles Lefebvre (grand), Mrs. Mawley (exquisite), Beauty of Waltham, Merveille de Lyon, Star of Waltham, and Innocente Pirola.

Mr. Townsend, Worcester, took second prize. There were several admirable blooms in this collection. The third position was assigned

to the energetic Hon. Sec., Rev. Preb. Asley, with a splendid collection, which gained the additional distinction of being allotted the N.R.S.'s two silver medals (1) for the best Tea Rose (Catherine Mermet), and (2) for the best Rose exhibited by an amateur. The third N.R.S.'s medal fell to Mr. T. Hobbs, Bristol (Marchioness of Londonderry).

In the Tea and Noisette division, in the nurserymen's class, Messrs. Dickson carried off the first prize, Souvenir d'Elise, Maman Cochet, Caroline Kuater, Catherine Mermet, The Bride, and Anna Ollivier were pre-eminently fine; second, Mr. Mattock, with especially fine blooms of Ernest Metz, Innocente Pirola, and Princess of Wales. In the open classes for twelve one sort Roses, light variety, first prize fell to Messrs. Dickson, with superb blooms of Bessie Brown; dark, to Mr. Townsend, with bright smooth blooms of A. K. Williams; yellow, to Messrs. Dickson, with level blooms of Kaiserin Augusta Victoria, who also took first prize for white with Marchioness of Londonderry. It only remains to be added that the herbaceous department was extremely good, and contained many very interesting and new varieties. The space allotted

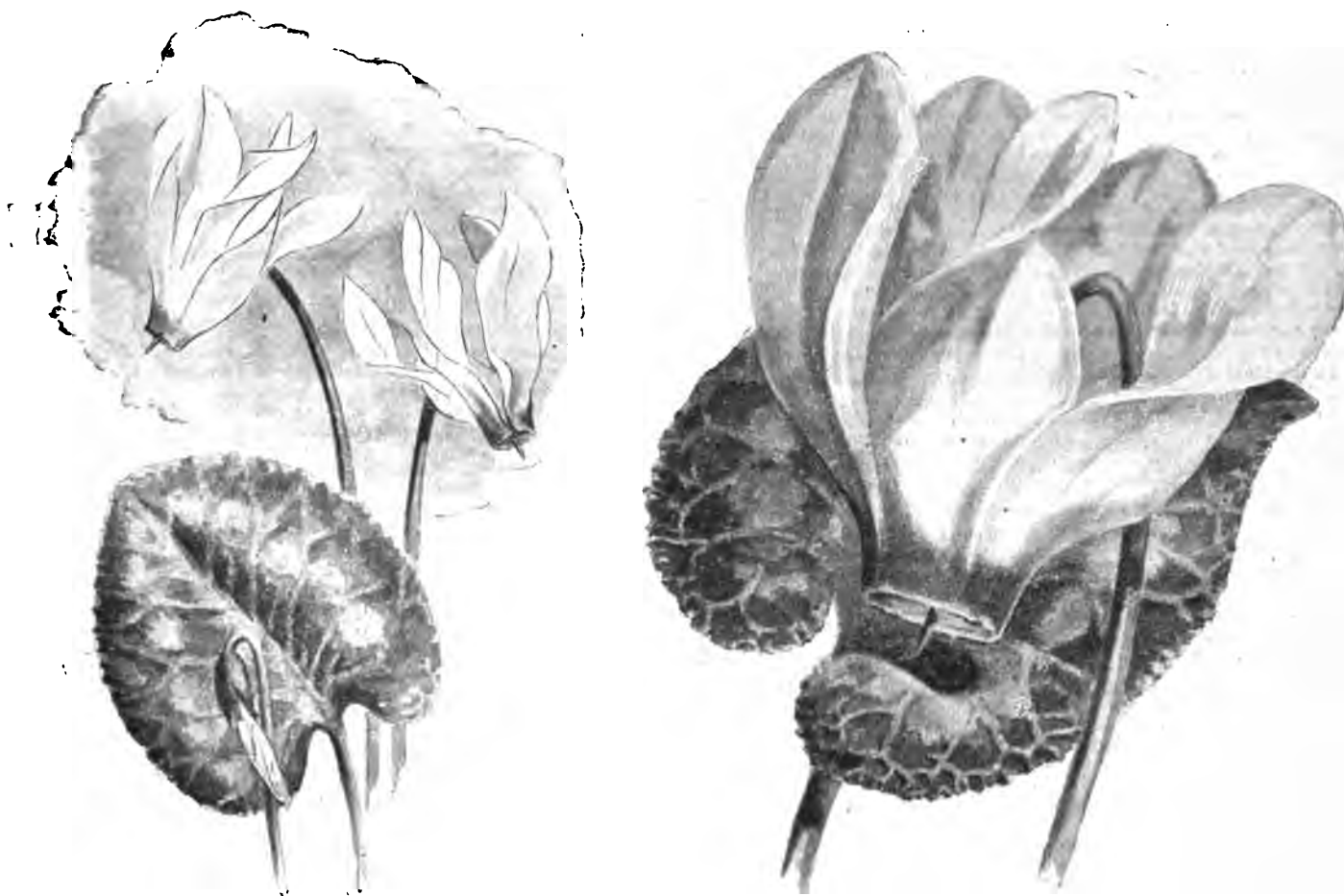


FIG. 14.—CYCLAMEN, 1837—1897.
(The results of cross fertilisation and selection.)

to the English Fruit and Rose Company, whose Roses are unusually late this year.

Thirty-six varieties were carried off by Mr. Mattock, Oxford, with fine specimens of fresh and bright blooms. Second, Mr. Jeffries, Cirencester. Third, Mr. Pewtress, Tillington, Hereford.

Twenty-four varieties, three of each.—First prize, Messrs. Dickson, with such superlative specimens, that each, without comment, is worthy of being recorded:—Gustave, Piganeau, Kaiserin Augusta Victoria, Ulrich Brunner, Mrs. John Laing, Star of Waltham, Mrs. W. J. Grant, Horace Vernet, Muriel Grahame, Ulster, Lady Mary Fitzwilliam, Helen Keller, Souvenir de President Carnot, Heinrich Schultheis, Margaret Dickson, Etienne Levet, Bessie Brown, Countess of Caledon, Marquise Litta, C. Lefebvre, Star of Waltham, Duchess of Bedford, Madame Gabriel Luizet, Mrs. Sharman Crawford. Second, Mr. Townsend. Third, English Fruit and Rose Company.

Amateurs (open), twenty-four varieties.—First prize, Mr. Conway Jones, who also carried off first prize in the twelve varieties, three of each, with bright and level collections. Second, Mr. T. Hobbs, Bristol. Third, Rev. R. Powley, Warminster. Eighteen varieties.—First prize, Rev. F. J. Fulford, with large and very fresh blooms. Second prize, Mr. R. Foley Hobbs. Third prize, Rev. R. Powley.

Herefordshire amateurs' (eighteen varieties) gold N.R.S.'s medal fell

to these collections was all completely filled, and very satisfactorily this happened, as much of the space allotted to the Rose department was far from full.—HEREFORDSHIRE INCUMBENT.

MANCHESTER.—JULY 8TH.

WITH such names as Messrs. B. R. Cant, F. Cant, Alex. Dickson and Sons, Prior & Sons, W. Paul & Son, Townshend, Mattock, Princes, Harkness, in the trade, and Pemberton, Lindsell, Boyes, and Hobbs in the amateur section, no wonder that (barring the National) the Show was considered superior to all others seen this season. Competition was keen, and long before reaching the Botanical Gardens the fame of the Show was noised abroad, and the day being perfect, all the élite of Manchester and the district seemed to be present. In the grand glass-covered promenade with its creeper-covered roof the Roses found their home, and wisely Mr. Weathers had acted upon advice given by many last year, and had breadths of tiffany spread so as to break the direct rays of the sun. Mr. James Brown, a fine grower of the Rose, worked with Mr. Weathers and Mr. Paul so assiduously that the labours of exhibitors were greatly relieved, and we heard nothing but unstinted praise from all.

The chief class was for sixty, distinct, and five staged, Mr. B. R. Cant of Colchester securing the prize with very good blooms. The stand was

as follows—Marie Baumann, La France, Tom Wood, François Michelin (grand), Chas. Lefebvre, Madame Eugène Verdier, Duchess of Fife, White Lady, Mrs. W. J. Grant, Duke of Teck, Ulrich Brunner, Mrs. J. Laing, Gustave Piganeau, La Fraicheur, Captain Hayward, Her Majesty, Comtesse de Ludre, Marchioness of Dufferin, Duchesse de Moray, Marchioness of Londonderry, Innocente Pirola, Earl of Dufferin, The Bride, A. K. Williams, Horace Vernet, Golden Gate (extra), Maurice Bernardin, Bridesmaid, Dr. Andry, Maman Cochet, Alfred Colomb, Muriel Grahame, Marie Verdier, Mrs. Sherman Crawford, Duke of Connaught, Catherine Mermet, Horace Vernet, Souvenir d'Elise Vardon, Helen Keller, Comtesse de Nalailac, Camille Bernardin, Auguste Rigotard, Madame Hanemann, Countess of Caledon (splendid), Victor Hugo, Maréchal Niel, Etienne Lavet, Mrs. F. Sandford, Le Havre, Medea, Fisher Holmes, Madame de Watteville, Prince Arthur, Madame Cadeau Ramey, Comtesse de Paris, Madame Cusin, Edouard Andry, Kaiserin Augusta Victoria, Duke of Wellington, and Niphetos. Messrs. A. Dickson & Sons, Newtownards, were a very close second, and Messrs. D. Prior & Sons, third. Mr. B. R. Cant for thirty-six was to the fore again with similar varieties. Messrs. D. Prior & Sons were a capital second, and Messrs. Townshend, Worcester, a good third.

For twenty-four Teas and Noisettes, single trusses, first Mr. B. R. Cant with a stand which was considered by many to be scarcely ahead of the second. The best blooms were Innocente Pirola, Catherine Mermet, Muriel Grahame (excellent), and Souvenir d'Elise. Messrs. F. Cant & Co. were second, and Mr. Geo. Prince, Oxford, third. For twelve Teas, distinct, Mr. Prince scored easily, Muriel Grahame, Catherine Mermet, Innocente Pirola, and Madame Cusin standing well out. Mr. Jno. Mattock, Oxford, was a fair second, and Messrs. Alex. Dickson & Sons third. For twelve yellows Mr. Prince again came to the fore, but this competition was one of the closest in the Show, the blooms of Kaiserin Augusta Victoria, staged by Messrs. Alex. Dickson & Sons, being considered the best box ever put up of the variety. The third position fell to Messrs. Prior. For twelve any light coloured Rose Messrs. Alex. Dickson & Sons had most wonderful examples of Miss Bessie Brown; Mr. Jno. Mattock second with Innocente Pirola. For twelve crimson Messrs. Townshend & Sons were first with rich A. K. Williams; second, Messrs. Prior with Ulrich Brunner.

In the amateur section the competition was particularly smart, the Rev. J. H. Pemberton, Havering, Essex, winning with well developed flowers, the best of which were Her Majesty, Marchioness of Londonderry, Caroline Testout, Prince Arthur (very good), François Michelin, and Gustave Piganeau. Mr. E. B. Lindsell, Bearton, Hitchin, followed closely; the third went to Mr. W. Boyes of Derby. For twelve single trusses Mr. R. Park, Bedale, won somewhat easily. In a class for eighteen Teas and Noisettes Mr. Foley Hobbs, Worcester, took honours, the Rev. W. H. Jackson, Bedford, following, the Rev. J. H. Pemberton being a good third. Mr. Lindsell had no difficulty in the class for twelve Teas, Mr. Foley Hobbs being second. Again Mr. Lindsell scored with twelve yellows, with fine examples of Caroline Kuster; Rev. J. H. Pemberton second with Comtesse de Nalailac. Mr. Foley Hobbs and Mr. Lindsell were first and second respectively with Her Majesty in the class for pink Roses. A. K. Williams won the prize for Rev. J. H. Pemberton for crimson. There were only two competitors for buttonhole Roses, Messrs. Jno. Mattock and Geo. Prince winning.

For a display of Roses, Mr. Prince won with a choice array of singles. Teas and Polyanthas. Messrs. Mattock and Townshend second and third. The baskets of Roses formed a great feature, competition being brisk, and quality of the very best, Mr. R. W. Green being a fine first. In the district classes, Mr. T. Jackson, Altrincham, was the only one for twenty-four with pretty blooms. Mr. Robert Hall was first for twelve and six.

The medal Roses were greatly admired. Miss Bessie Brown was accorded the honour for the best Rose in the show for H.P. or H.T. Messrs. Harkness & Sons scoring with a fine flower of Maman Cochet for best Tea.

A fine half-circular group (not for competition) was placed to the credit of the celebrated firm of Messrs. W. Paul & Son, Waltham Cross, Herts, and right worthily they maintained their prestige. Gold medal. They also got a F.C.C. for the H.T. Rose Tennyson, a capital seedling from White Lady. Messrs. Dickson, Ltd., Chelsea, had many boxes of H.P.'s, Teas, and decorative varieties, which fully kept up the reputation of the firm. Sweet Peas were fine from Mr. Brown, Heaton-on-Mersey; Violas from Mr. Upton, The Nurseries, Islam, being most deserving of the silver medal also. Mr. H. Pattison had lovely devices in the same class of flowers. Mr. Eckford surely never staged Sweet Peas more beautifully. A cultural certificate was awarded. The Irish single Roses of Messrs. Dickson came in for their share of admirers, and will ere long take high rank. Cottagers are receiving every encouragement, and the exhibits justified their inclusion in the schedule.

TWENTY-ONE YEARS IN FLEET STREET.—Such is the uncommon title of a beautifully produced handbook from Mr. Thos. Smith, who has now attained to his majority as an advertising agent. The book records the progress of the firm from the outset until the present moment, and is most interesting, as illustrating what may be accomplished by a man who is endowed with indomitable tenacity of purpose, and whose methods of business have ever been characterised by integrity to the interests of his clients. We tender our congratulations to Mr. Smith, and to his staff in the several departments, on the success that has proved to be the reward for difficulties bravely met and work well done.

THE YOUNG GARDENERS' DOMAIN.

STREPTOSOLEN JAMESONI.

THIS pretty free-flowering greenhouse plant well deserves attention from anyone possessing a cool greenhouse, its peculiar orange-red flowers being very effective. As a pot plant or against a wall, or when it is used for covering arches in the conservatory or the corridors, it grows and flowers profusely if allowed abundance of space and light.

It is of easy culture—in fact, one of the simplest plants to grow. Cuttings should be inserted about the first week in April, three or four into a 3-inch pot, in some light sandy soil, and if placed under a hand-light in a cool house they will soon root. When well rooted transfer to 5 or 6-inch pots, using a compost consisting of two parts of good loam, one part of leaf soil, and one of dried cow manure, with enough silver sand to make the whole porous. The plants will flower in these pots during the latter part of the summer, and in the following spring must be potted into 10 or 12-inch pots, in which they will bloom splendidly all the summer. If extra large plants are required for conservatories they may be placed into tubs. We have some grand specimens in tubs that become complete masses of bloom.

The growths should never be pinched, as the plant is of a naturally free and straggling growth. A root-bound condition is conducive to free flowering, but care must be taken to give copious supplies of water when in that condition, never allowing them to get dry. They are greatly benefited when the pots are filled with roots by occasional applications of liquid manure, that from the cow byres being the best, and by an occasional sprinkling of an approved fertiliser.

This plant also succeeds when planted outside in the flower beds if given an open site, where it will have plenty of sun. I remember seeing a bed of it a year or two ago in the Midlands, and it was a complete mass of bloom.—H. C. H., York.

[In writing future articles please use one side of the paper only, and leave space between the lines for necessary revision.]

CYCLAMEN CULTURE.

THE seeds of *Cyclamen persicum* are generally sown in January or February, but much better results are obtained if this is done immediately they are ripe, which is from the middle of July to August. In the latter case germination takes place much quicker, and consequently the plants are more robust than when sown in the spring and have to be grown in a high temperature through the summer and autumn months. I have known instances where the seeds have been sown in January and failed to germinate until too late to be of any use for flowering the current season. In such a case grow the young plants slowly in pans until a couple of true leaves are made; the pans can then be placed outside in a shady spot until the middle of September, when they may be put in an intermediate temperature, and be potted in small pots about the end of November, repotting them afterwards as required. In June these may be placed in cold frames, which are closed early in the afternoon, until sufficient growth is made, after which more airy treatment will benefit them, and if the plants are strong the lights may be taken off at 5 P.M. every fine night in August, replacing them early the following mornings, and shading from strong sunshine.

When commencing in July, the most suitable soil for sowing the seeds is in equal parts of finely sifted loam, leaf soil, and sand. The seed pans must be well drained, and filled to within half an inch of the top, made moderately firm and level; no water will be necessary if the soil is in a moist condition. The seeds should be placed 1 inch apart, and covered about a quarter of an inch. Place them in a warm moist house, covering the pans with a sheet of glass, over which a layer of paper is put to exclude air and light.

From this time the soil must never be allowed to become dry, neither should it be kept in a sodden condition. The seedlings will appear in about five weeks, and they should be placed on a shelf close to the glass, kept free from draughts, shaded carefully, and sprayed gently until three or four leaves are made, when cooler treatment may be accorded, such, for example, as a temperature from 45° to 50°. The young plants must be close to the glass, and there remain until the end of January, after which time the pans should be put back into a warm house with a temperature of 60° to 65°. As soon as growth commences they ought to be put in small pots, the soil used consisting of equal parts of loam, leaf soil, and sand. The corm should be only half above the surface of the soil when potted.

The greatest care in watering must be exercised from this stage onward, or failure will result; the plants must be sprayed three times daily throughout the growing season, as they revel in a moist atmosphere, which not only aids growth, but wards off attacks of insect pests. When the plants are rooted, transfer to 5-inch pots if they are strong, otherwise a size smaller will suffice. The compost should be three parts light fibrous loam, two parts partially decayed leaf soil, two parts sand, and one part dried cow manure, while a little Clay's Fertiliser will be a beneficial addition. By the middle of July the strongest plants will require repotting again, when the same compost should be used as for the second shift, a 6-inch pot will be quite large enough to flower the strongest plants in.—FOREMAN X.

TRADE CATALOGUES RECEIVED.

W. H. Hudson, Kilburn, N.W.—Fertilisers.
Pinehurst Nurseries, Pinehurst, N.C., U.S.A.—Seeds of Trees and Shrubs.
Ant. Roozen & Son, Overveen, near Haarlem.—Dutch and Cope Bulbs.



FRUIT FORCING.

Vines.—*In Pots for Very Early Forcing.*—When these are to be started early in November to afford ripe Grapes during March or April the wood should now be thoroughly matured and the buds plumped. If not, the house may be kept rather warmer by day, say 70° to 75°, and 80° to 85° with sun heat, closing early so as to raise the temperature to 90° or 95°, and throw the ventilators open at night. Afford water or liquid manure in sufficient quantity to prevent flagging, and expose the foliage to all the light possible. Laterals must be kept well in check, leaving no more than are essential to appropriate any excess of sap, and so prevent the principal buds being started. When the wood is brown and hard and the buds are prominent the Vines should be removed to a situation outdoors, standing the pots on slates or boards in front of a south wall or fence. Secure the canes to avoid damage from wind, and only give water to prevent the foliage falling prematurely. In wet weather the pots may be laid on their sides or some waterproof material placed over them. When the main leaves turn yellow commence reducing the laterals, and prune when the leaves are all off, the laterals being shortened close in and the canes reduced to the length required. This done, place them in any cool airy place until required for forcing. Keep moderately dry at the roots and exclude frost.

Planted-out for Early Forcing.—When it is contemplated to start Vines early that have not hitherto been so subjected, it will be necessary as soon as the crop is off to thoroughly cleanse them by syringing or the application of an insecticide. If there is any doubt as to the maturity of the wood and the plumpness of the buds it will be desirable to employ fire heat in the daytime to maintain a temperature of 70° to 75° with moderate ventilation, and turn the heat off at night to allow the pipes to cool. This, with a thorough circulation of air, will soon cause the wood to harden and the buds to plump, inducing rest. It is also a good plan later on to shorten the bearing shoots to about four or five leaves from their base, thus plumping the basal or pruning buds. When the Vines have the wood ripe and the buds plump they will only require full ventilation day and night.

Earliest House.—In the early houses the wood is generally well ripened, for the Vines, as a rule, are not over-vigorous, and the dry atmosphere maintained during the ripening of the Grapes tends to mature the foliage, buds, and wood. This is sometimes fatal to the principal leaves or those corresponding to the pruning buds by encouraging red spider, and the consequence is the Vines go to rest early and start into growth in September, when they should be completely at rest. In the case of Vines losing the lower leaves on the bearing shoots, growth should be encouraged on the laterals, alike to stimulate root action, appropriate the sap, and prevent premature resting. Where the Vines retain the foliage to the base of the bearing shoots—termed laterals—it will be necessary to maintain a dry atmosphere to thoroughly ripen the wood; but it will not be essential to employ artificial heat.

Ventilate fully, keeping all laterals and late growths stopped, and aim at complete rest by having the border cool and comparatively dry. Where the Vines are in an unsatisfactory condition, prepare for lifting at an early date, getting fresh loam and clean drainage handy, so that the work can be quickly performed when started. It is desirable to lift the roots and lay them in fresh compost near the surface whilst there is foliage on the Vines; but the leaves corresponding to the pruning buds must be maturing, and the lateral growths will favour speedy root action. Work of this character ought not to be delayed beyond August in the case of Vines that are to be started early in December, which will need pruning by the middle of September or a little later.

Successional Vines Freed of their Crops.—If there be any red spider, thoroughly cleanse the Vines by means of water from a syringe or engine, and repeat occasionally. Mealy bug and scale may be combated with petroleum, which is easiest applied in the emulsion or soluble form, but this coats the glass with soapy matter, which is not easy to get off once it hardens. Pure petroleum and water may be used, one person syringing into the watering can, whilst another applies the mixture to the Vines forcibly, so as to well coat every part. A wineglassful of petroleum should be used to 4 gallons of water. The syringing repeated at intervals of a few days is an effectual remedy. Keep the laterals within reasonable limits.

If the Vines are vigorous and the wood not ripening well, keep the house rather dry, and ventilate fully at night, but turn on the heat by day, and ventilate moderately. This will tend to the maturity of the wood and buds. Vigorous Vines must not be stopped too closely or the principal buds may be started into growth by an excess of sap, and they may be kept without water until the foliage becomes a little limp. Vines, on the other hand, that are enfeebled by continued cropping should be encouraged to make growth by applying liquid manure to the border. Ventilate the house freely day and night, for it is mainly a question of evaporation in securing thoroughly ripened wood.

Grapes Ripening.—Whilst colouring, most Grapes swell considerably, and there must be no deficiency of moisture in the border. Give,

therefore, a good supply of water or liquid manure, especially the latter, where the Vines are heavily cropped, for though it may not materially influence the Grapes, it will contribute to the general health of the Vines, and by giving them plenty of time the crop may finish satisfactorily. Hastening heavily burdened Vines and a deficiency of nourishment is almost sure to culminate in defective colour in the Grapes. A good rest at night in a temperature of 60° to 65°, with air, is a great help to Vines taxed to the utmost by a heavy crop. Allow the laterals to extend if possible. A moderate amount of air moisture is essential to the health of the Vines, sprinkling the floor in the morning and afternoon in bright weather, or occasionally, and no ill effects will follow, provided a circulation of rather warm air is secured. This is essential to avoid "spot" in Muscat of Alexandria and some other tender-skinned Grapes, therefore admit air constantly enough, with a gentle warmth in the hot-water pipes to insure a circulation and prevent the deposition of moisture on the berries.



SEASONABLE NOTES.

TEN days of unsettled weather has damped the spirits of bee-keepers, particularly those who are in the midst of a large area of white Clover. Within a two-mile radius of our own apiary there are upwards of 100 acres of white Clover now in full bloom and at its best for honey production. The heavy showers which have prevailed for more than a week past have benefited all growing crops, but bees cannot work and store a surplus under such conditions. Heavy thunderstorms, too, often wash much of the nectar out of the flowers, but with a high temperature and bright sunshine it soon rises again from the fast opening flowers. White Clover, the best of all our honey-producing flowers, suffers severely in this respect. But if one will examine the bloom, it will be found to be composed of a great number of tubes, several of which will open each day. Each tube contains a very small quantity of nectar, and it is surprising the great amount of honey a strong colony of bees will store from this source if the weather is favourable.

Although we are in the height of the honey flow it is not advisable to extract all the honey from the supers of those hives worked solely for that purpose. During the fine weather that prevailed last month strong colonies filled the supers. Where these were left until the change in the weather took place, then being passed through the extractor, the bees will be short of stores owing to the inclemency of the weather. If there is likely to be a change in the weather we prefer to leave the outside comb with its stores intact. This will prevent the bees turning the young grubs out of their cells, which they invariably do directly their food supplies are cut off at this season.

Stocks worked solely for extracting are much more liable to suffer through shortness of stores than when worked for comb honey; as in the latter case it is not removed until it is properly sealed over, so that there are always ample stores for the workers.

SWARMS RETURNING TO OTHER HIVES.

The vagaries of swarms are well known to bee-keepers. Our advice has recently been sought under two different circumstances. In the first case a strong first swarm came out of a frame hive, flew straight away, and although followed for a considerable distance was eventually lost. Ten days afterwards the bees in the other hives were seen to be in great commotion, all were apparently fighting amongst themselves. Dead bees were being turned out of the hives wholesale, and when we saw them the following day thousands of bees lay dead around the hives. We at once realised what had happened—a cast had come from the hive from which the swarm was lost, and instead of clustering on a neighbouring bush, or flying straight away, the erratic young queen entered another hive, the bees followed, many went into the other hives, and the majority were slaughtered.

A few days afterward a similar case happened with a first swarm in another apiary. Instead of clustering on a tree or bush they returned to another colony, clustering on the side of the hive and on the alighting board. An empty skep was immediately obtained and placed by the side of the other hive, a few puffs of smoke started the bees running, the queen was picked out of the middle of the cluster, and the swarm was hived without any mishap. Had they been left to chance they would have met the fate of the former.—AN ENGLISH BEE-KEEPER.

"FAMILIAR WILD FLOWERS."—Parts 14 and 15 of Cassell's "Familiar Wild Flowers" contain plates of the Broom, Creeping Bellflower, the Melancholy Thistle, Cow Wheat or Melampyre, Betony, Comfrey, Hairy St. John's Wort, Fool's Parsley, Hedge Mustard, Lily of the Valley, the Succory, Devil's Bit Scabious, Knot Grass, Cross Wort, Woodruff, Fumitory, Small Willow Herb, Red Valerian, Bog Asphodel, and Nettle-leaved Bellflower.



•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Late Inquiries—Several letters and specimens arrive every Tuesday morning with a request for a reply in "your next issue." This, however, when, as is commonly the case, a microscopical examination is necessary, is quite impossible. Our correspondents should forward their questions as early as possible, so as to allow proper time for thorough investigation.

Celery Leaves Destroyed (*J. F. G.*).—The leaves have the appearance of destruction by the Celery fly, *Tephritis onopordinis*, but the specimens were in such a dried condition as not to admit of this being determined satisfactorily. Either that or some substance applied to the leaves has caused their destruction. The fly or leaf-miner, however, is very prevalent this season, and has already rendered many plants quite as bad as your specimen. The best preventive is to sprinkle the plants occasionally with quassia extract diluted according to the instructions, and adding to this one part in 100 of nicotine essence. Soluble petroleum diluted and sprinkled over the plants occasionally during the evening prevents the insects depositing eggs on or in the leaves, and also kills the maggots in the blisters, as it sinks through the epidermis.

Ammonia from the Gas House (*Idem*).—If by ammonia you mean gas liquor or ammoniacal liquor, it should be used very carefully, never stronger than one part to five or six parts water, and even at this strength not used over the foliage, which in most cases is seriously injured by it. At a strength of one part to twelve parts water it does not usually injure smooth foliage, but it is best to utilise it for the roots of crops only where it has a good effect, being an excellent but much neglected fertiliser. We should not use it stronger for general watering purposes than the strength last named, and not too often, as it tends to promote over-luxuriant growth. It is always better too weak than too strong. If by ammonia, however, you mean sulphate of ammonia, then do not use more than $\frac{1}{2}$ oz. to a gallon of water, better half the quantity to begin with, and increase the dose as the plants become used to it. For use as a top-dressing $\frac{3}{4}$ oz. per square yard is sufficient, though in advance of cropping 1 oz. per square yard may be used, distributing evenly and pointing-in lightly. It does not "run" away like nitrate, and is best for loamy or rather strong land.

Muscad Grapes Shrivelling and Going Black (*A. L. J.*).—The berries are certainly "scalded," and also affected by the disease called "spot," due to the fungus named *Gloeosporium laticolor*, but in this instance we consider it a result or accompaniment, rather than a cause of brownness or blackness in the specimen. It would be well, however, to remove the affected berries and burn them, though we do not perceive any trace of the pycnidia of the parasite, only the mycelial hyphae in the tissues. The "scalding" and "spot" also may be avoided by a little ventilation constantly, and gentle warmth in the hot-water pipes, increasing the air early in the morning, always by or before the sun acts powerfully upon the house, so as to dissipate any condensed moisture, and allow the Grapes to heat and evaporate equally with the surrounding air. It is also advisable to employ a slight shade over the roof-lights, such as a double thickness of herring nets, especially in structures with large panes of glass not efficiently provided with ventilating openings, and particularly in bright weather following a dull period. Air, however, with gentle warmth in the hot-water pipes, is the great desideratum for preventing accidents of the nature indicated.

Scots Fir Unhealthy (*O. F.*).—The twigs are not affected by any parasite. One piece is quite dead and the needles browned; the other portion is green, but sapless; most of the needles are browned at the tips, and some a considerable distance down. No growth appears to have been made this season, hence we conclude that something must be wrong at the roots. Could you not have a careful examination of the trees by some experienced woodman or gardener?

Wintering Cauliflowers without Protection (*R. M. D.*).—It is very unusual for Cauliflower plants from seed sown early in August, planting them out in permanent quarters, as is done with early Cabbage, and getting a crop of heads 6 inches across by the middle of June in Yorkshire. This was probably feasible through the mildness of the winter of 1898 and 1899, as we have often tried the experiment with the same variety. Early London, and not found the plants survive an ordinary North Riding winter under the protection of a wall with a south aspect. We are, however, obliged by the record of your experience, and shall be pleased to have it confirmed, as Cauliflowers in June without any protection for the plants in winter is a point well worth striving for.

Young Vines with Leaves Curled at the Edges (*Idem*).—Probably the Vines are affected with some pest at the roots, wireworm being often present in poor, brown turfy loam, and readily takes to Vine roots. We have also known them to suffer from the larvae of the black Vine weevil or allied species, and even from eelworm. A dressing of lime in such cases does good, both as regards food for the Vines and acting deterrently to the pests. Why not mulch the border with sweetened horse droppings, and thus encourage more growth? Could you not examine the roots, and if anything unusual is found there forward specimens? In the absence of these we are unable to assign any definite cause for the state of the Vines.

Growing Raspberries for Market (*G. P.*).—1, Heavy loamy soil about a good spade deep on brick earth subsoil, another spade deep, then clay, answers well, in our experience, for Raspberries, as they like a cool but not wet bottom, though there is no fear of this on land freely drained with pipes in proper working order. The land would also grow Gooseberries and Black Currants, and these pay very well if mistle. The Black Naples withstands the pest better than Baldwin, the mite, man-like, giving preference to the "fatted calf." The danger with Gooseberries is from spring frosts, especially in low-lying localities. 2, All points considered, Norwich Wonder and Fastolf are, perhaps, among the best Raspberries for growing on a large scale. Superlative gives a much heavier crop, but the plants are hardly, as yet, procurable in such quantity and at a price admissible for planting on an extensive scale, though many buy them. The plants, 17,424 per acre, in rows 4 feet apart, and the canes (two in a hole) 15 inches asunder, are a serious consideration in respect of relatively new varieties. 3, If planted in early autumn, and the canes headed to 1 foot in height, very little fruit can be expected the first season, the chief essential being to secure strong canes for bearing in the second season, still 4 cwt. per acre has been realised the first year. In the second year, 2 tons may be regarded as a full crop per acre, and in the third season the plantation would be at its best, producing 3 to 4 tons per acre. 4, £24 per ton is a fair price to arrange beforehand, but the figures have ranged higher in recent years, £27 being the average for tub fruit; but it is always well to take possible low market prices into consideration as they occur during some seasons. Raspberries, however, are not likely to permanently fall in price, as they are among the most uncertain of all fruits through speedily spoiling in wet periods. 5, The number of pickers would depend upon the crop as well as the area, but for 2 or 3 acres about twenty-four pickers would be required. The picking is usually done by the piece, at the rate of $\frac{1}{4}$ d. per lb., 6d. per peck of 12 lbs., 4s. to 5s. per cwt., £4 to £5 per ton, the number of gatherings being five or six. Labour varies so much in different localities, that no correct estimate can be given. The picking is a serious matter, in some localities materially limiting culture, labour being practically driven into towns, and largely through the suppression of the once numerous small holdings. 6, The cost would run something like £40 per acre until the first crop was obtained. Mr. Cecil Hooper estimates it as follows:

COST PER ACRE OF PLANTING AND FIRST SEASON'S CULTIVATION.			
<i>October.</i> —Manuring with 80 tons £12 7 0			
Ploughing ... ..	...	...	1 0 0
			£18 7 0
<i>February.</i> —17,424 young Raspberry plants at £1 per 1000 17 8 6			
Heading of the canes 1 foot high ... ..	...	...	0 6 0
Digging 8712 holes, rows in each fifth furrow (4 feet) 18 inches apart, plants carried by women, two planted in each hole ... ..	...	...	2 0 0
			19 14 6
<i>March to July.</i> —Horse hoeing, four or five times, at 3s. 0 15 0			
Hand-hoeing, four to five times, at 5s. to 6s. ... ..	...	...	1 10 0
			2 5 0
Picking Raspberries, 4 cwt. at 4s. ... ..	...	...	0 16 0
Packing, carriage, and sale charges ... ..	...	...	0 14 0
			1 10 0
Rent, rates, taxes ... ..	...	...	2 0 0
			£38 16 6

In the second year the cost of production is given at £25 1s., the crop 2 tons, at £23 per ton = £46, thus leaving £20 19s. as balance for unforeseen expenses, superintendence, interest on capital, and proportionate cost of planting.

Grapes Cracking (White Grapes).—The cracking of Foster's Seedling is probably due to excessive moisture and nutrition after the Grapes have taken the last swelling. This variety is more exacting in the requirements of a well ventilated atmosphere during the ripening and ripe stages than Black Hamburgh or even Muscat of Alexandria, though the latter requires free ventilation. The cracking at the top of the berry indicates the deposition of moisture there, which is somewhat difficult to rectify, even with constant ventilation and gentle warmth in the hot-water pipes. This is all we can advise, though some mitigation of the cracking may follow cutting the laterals or bearing shoots about half through a joint or two below the bunch. This, with comparative dryness at the roots and a freely ventilated atmosphere, has proved useful. But cracking also arises from the house being kept too dry or the border not sufficiently moist during some stage of the swelling, which causes the skin to harden, and then the berries split upon a return of more nourishment and moisture. Extremes in either direction are conducive to the evil.

Are Sweet William and Snapdragon Biennials or Perennials? (Armagh).—Sweet William (*Dianthus barbatus*) is a hardy perennial, and so also is Snapdragon (*Antirrhinum majus*), but they have been so improved by selection and cross-fertilisation as to be regarded as outside the term of perennial in schedules, prizes being offered for them separately in many cases as florists' flowers, which are grown as biennials, propagated one year for flowering the next. That is what the judges no doubt meant by biennials, restricting the term perennial to species of the genera, not greatly, if at all, differing from the type, or not passing beyond a sub-species, and practically excluding varieties. So long as prizes are offered on the terms above specified so surely will doubts and disputes arise, and thus it is that the Royal Horticultural Society strongly recommend that in framing classes for mixed collections of hardy garden flowers the simple words "Hardy Flowers" should be adopted. It would be worth your while sending 1s. 6d. to the Secretary, Royal Horticultural Society, 117, Victoria Street, Westminster, for a copy of the "Rules for Judging," and you will find pertinent information on pp. 33, 34, and 35 of the manual.

Insect on Coleus (G. H.).—The insect on the specimen, which was very carefully packed, and arrived in excellent condition for examination, is the "Kew Bug," or Lantana fly, *Orthesia insignis*, which gives rise to white mealiness on the affected parts—the under side of the leaves and growing parts of the shoots—seriously interfering with the growth, causing it to become stunted and distorted. In its young state the insect closely resembles a mealy bug, only too well known to gardeners, and not less disastrous in its effects. It lives by sucking the juices of the plant, and, as you say, has its favourite "hosts," even in species or varieties of the same genus. The insect cares very little for tobacco smoke in the perfect stage. Tobacco water (juice diluted with about twelve times the bulk of water) kills the creature; still better is nicotine essence, 1 part in 100 parts of rain water, while the cleanliest of all applications is methylated spirit, applied very lightly with an atomiser or pneumatic spray diffuser. The spirit should be diluted with about one-half of water, or it may be applied with a camel's-hair brush. Vaporisation with nicotine essence is, perhaps, the best remedy on a large scale, repeating occasionally, so as to destroy the pests as they emerge from the eggs.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*L. J. P.*).—Bigarreau Napoleon. (*Devon*).—Guigne Annonay. (*K. W. G.*).—A form of *Lilium Martagon*; specimen withered, possibly *Statice latifolia*. (*R. L.*).—Probably a variety of *Hemerocallis fulva*, but we did not succeed in getting a flower perfectly expanded. (*S. H.*).—1, fluctuations in the temperature which should be kept steady; 2, a *Maranta*, species undeterminable, the variegation is natural; 3, *Nepeta Glechoma variegata*; 4, a *Phyllocactus*, of which the name could only be obtained by comparing flowers in a large collection, such as that of Messrs. Veitch & Sons; 5, no specimen; 6, *Rheedia glaucescens*. (*J. T. H.*).—Possibly the common Maple (*Acer campestre*), but it is impossible to say definitely from such a specimen.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Secretary, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—Secretary, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—Secretary, Mr. Brian Wynne, 8, Danes Inn.

COVENT GARDEN MARKET.—JULY 12TH.

AVERAGE WHOLESALE PRICES.—FRUIT.—Trade fair.

	s. d.	s. d.		s. d.	s. d.
Apricots, per box ...	1 0	to 1 6	Lemons, case ...	14 0	to 86 0
Apples, Tasmanian, case	13 0	20 0	Melons ...	1 0	3 0
Cherries, $\frac{1}{2}$ sieve ...	5 0	8 0	Nectarines, per doz.	3 0	12 0
.. cooking, sieve of 24 lbs.	5 0	6 6	Peaches, per doz.	8 0	15 0
Currants, red, per sieve ...	5 0	6 0	Pines, St. Michael's, each	8 0	6 0
.. black, per sieve ...	5 0	6 0	Plums, per box...	1 6	2 0
Figs, green, per doz.	3 0	6 0	Raspberries, doz. punnets	3 0	6 0
Gooseberries, $\frac{1}{2}$ sieve ...	2 9	0 0	Strawberries, outdoor, bskt	0 6	0 10
Greengages, box of 40 to 48	1 6	2 0	.. peck ...	3 0	6 6
Grapes, black ...	1 0	8 0			

AVERAGE WHOLESALE PRICES.—VEGETABLES.—Trade dullish.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1 0	to 2 0	Lettuce, doz.	1 3	to 0 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb....	0 6	0 0
Beans, per lb. ...	0 3	0 6	Mustard and Cress, punnet	0 2	0 0
.. Longpods, $\frac{1}{2}$ bushel	1 6	0 0	Onions, bag, about 1 cwt.	5 6	0 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bunches	2 0	4 0
Cabbages, per tally ...	7 0	0 0	Peas, per bushel ...	2 0	4 0
Carrots, per doz.	3 0	4 0	Potatoes, cwt. ...	2 0	6 0
Cauliflowers, doz.	2 0	4 0	.. new ...	9 0	11 0
Celery, new, per bundle ...	1 9	0 0	Shallots, lb.	0 8	0 0
Cucumbers... ..	0 4	0 0	Spinach, per bushel...	0 0	4 0
Endive, doz.	1 8	1 6	Tomatoes, per doz. lbs.	2 0	4 6
Herbs, bunch ...	0 8	0 0	Turnips, bunch...	0 8	0 4
Leeks, bunch ...	0 2	0 0	Vegetable Marrows, doz.	3 0	4 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bunches...	1 6	to 2 0	Lily of the Valley, 12 sprays	0 4	to 1 0
Arums ...	3 0	4 0	Marguerites, doz. bunchs.	3 0	4 0
Asparagus, Fern, bunch...	2 0	2 6	Maidenhair Fern, doz.		
Azalea, white, doz. bunchs.	8 0	4 0	.. ..	4 0	6 0
Carnations, 12 blooms ...	1 6	8 0	Mignonette, doz. bunches	4 0	6 0
Daffodils, single yellow, ..			Narcissus, doz. bunchs.	1 0	2 0
.. 12 blooms ...	0 6	0 8	Orchids, var., doz. blooms	1 6	9 0
Daffodils, double, bunches	0 4	0 6	Pelargoniums, doz. bunchs.	4 0	6 0
Eucharis, doz. ...	2 0	3 0	Paeonies, doz. bunchs.	4 0	8 0
Freesia, doz. bunchs.	2 0	3 0	Roses (indoor), doz....	2 0	8 0
Gardenias, doz.	1 0	2 0	.. Red, doz....	2 0	4 0
Geranium, scarlet, doz.			.. Tea, white, doz.	2 0	8 0
.. ..	4 0	6 0	.. Yellow, doz. (Perles)	2 0	8 0
Hyacinths, Roman, bunch	0 4	0 6	.. Safrano, doz. ...	2 0	2 6
Iris, per doz. bunches	6 0	12 0	Smilax, bunch ...	8 0	4 0
Lilium Harrisii, 12 blooms	8 0	4 0	Tulips, bunch ...	0 4	0 6
.. longiflorum, 12 blooms	4 0	6 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitis, var., doz.	6 0	to 86 0	Foliage plants, var., each	1 0	to 5 0
Aspidistra, doz.	18 0	86 0	Fuchsias, doz. ...	4 0	6 0
Aspidistra, specimen	5 0	10 6	Heliotropes, doz.	4 0	6 0
Boronia ...	12 0	18 0	Hydrangeas ...	6 0	10 0
Crotons, doz.	18 0	24 0	Lilium Harrisii, doz.	12 0	18 0
Dracena, var., doz....	12 0	80 0	Lyopodiums, doz.	3 0	4 0
Dracena viridis, doz.	9 0	18 0	Marguerite Daisy, doz.	6 0	8 0
Erica various, doz.	9 0	24 0	Myrtles, doz.	6 0	9 0
Euonymus, var., doz.	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz.	4 0	18 0	.. specimens ...	21 0	68 0
Ferns, var., doz.	4 0	18 0	Pelargoniums, scarlet, doz.	4 0	6 0
.. small, 100	4 0	8 0	Solanums, doz. ...	6 0	12 0
Ficus elastica, each ...	1 0	7 0	Stocks...	4 0	6 0

Bedding out plants in variety from 8s. doz.



CAN WE BEAT THE FRENCH?

UPON what field, or in what manner? It has been an English custom, the growth of many centuries, to look upon a Frenchman as though he were not flesh and blood like ourselves; but of quite an inferior type; and we have underrated him most unduly. This has been the outcome of those many wars between ourselves and our Gallic neighbours—wars in which, as a rule, they had the worst of it, and the culminating point was the field of Waterloo. The manners and customs of the French do not fall in with our preconceived notions of what is suitable or desirable in a great nation, and we let our prejudice blind our eyes.

Nevertheless, a Frenchman can live where an Englishman would starve, and save where his neighbours across the water would consider there was no appreciable margin. The farming classes and the peasantry work harder and fare more plainly than we do, and yet appear to get as much or more pleasure out of life, and certainly have oftener a balance at the end, where we show a deficit. Whether their modes of agriculture could be adopted successfully in this country is an open question.

Parts of northern France resemble England closely, and those are the parts to which we should turn our attention. Like the Canadian summer, we have an idea that the French summer is much hotter and drier than ours, and it is wonderful what a continuance of hot dry weather will do for vegetation.

The particular form of cultivation we have in view now is the sugar Beet root crop, and our attention has been directed to it by the reading of a letter from Col. Victor Milward of Warwickshire, who is so much interested in the subject that he has paid a special visit to the Beet root farm and factory of M. Tetard at Gonesse, near Paris. We used always to suppose, as children, that our sugar supply was from cane grown in the West Indies; now the tale is different. Professor Long says that three-quarters of our whole supply is derived from Continental Beet; that seems an astounding fact, but fact it is.

Now consider the price we pay per lb.; 2d. will buy a far better class of sugar than that for which our fathers and mothers gave 10d. Could we possibly grow it here at that price per lb., and make a profit? We doubt it. Certainly there is no class who would be willing to go back to the old price paid for this cheap luxury. The Frenchman does, because he has Government bounty to back him up—that is, Government does not allow him to be a loser on his exports, while the price he pays himself for sugar for his own consumption is at least 5d. or 5½d. per lb. We are not fond of too much interference from Government, and we know nothing here of the bounty system.

But to return to this farm at Gonesse. M. Tetard owns and farms 1000 acres, and also rents 500 acres more, at a rent of £1 18s. 5d. per acre, and the rates come to 6s. or 8s. an acre in addition. The labour is done by imported Belgians, whose wages run from 4s. to 4s. 10d. per day, together with lodgings and soup. From 100 to 150 men are employed on the land, and about forty in the factory. Beet will grow in almost any soil, but does the best, of course, on good land—good land, that would bring other crops to the highest perfection.

What is the greatest quantity of Beet that can be grown per acre? For this information we must turn to Dr. Schack Somner, who has spent many years in investigating this subject. He says from 12½ to 26 tons per acre; but that is not all. We might get a heavy crop of roots per acre, but what about the sugar percentage? That, he says, will vary from 2 tons to 3 tons 14 cwt.

Of course, the pulp is of value for feeding purposes. M. Tetard makes of that large product 5s. per ton. Then there is the treacle and other waste. We could find the land, possibly, at a rather less rent; we could find cheaper labour—Irish, to wit; but could we insure a sufficiency of sunshine? As far as we can make out, the very best of cultivation is required, and a liberal—very liberal—application of “artificiala.” A good mixture is 160 lbs. nitrate, 320 lbs. superphosphate; or 320 lbs. Peruvian guano, and 160 lbs. superphosphate per acre. Of course there is something of value left in the soil, and it is said that the following grain crop is much benefited. This we can quite believe, for we know that Wheat after Potatoes (that is, if the Potatoes have been properly treated) is invariably a good crop. It certainly must clean the land.

Mr. James Duncan says, “I found the east of Ireland and the east of England gave the best results (*i.e.*, trial crops), the west of England the worst; the midland counties very fair. Sugar Beet wants a warm wet summer and a cool, dry autumn; also a cold winter to conserve the roots. In the west of England the Beet continues to grow in the autumn, and does not ripen—dry frosty weather ripens the root, mild moist weather keeps the leaves growing.”

We suppose a man who thoroughly understood the management of a crop of Mangolds would succeed with B.et. Mingolds are not tested for saccharine properties, we are content with bulk; but should we improve ourselves if we grew roots to be turned by machinery into sugar, which we must sell at 2d. per lb., rather than if we grew roots that could be converted in sweet wholesome beef and mutton.

Of course the thing is worth a trial on the soils indicated, but we have always a distaste for embarking on new enterprises that we are not quite sure about, and we fancy the cost of machinery and plant, unless supplied by the landlord, would cause most tenant farmers to hesitate. Let philanthropic landowners come forward and have scientific experiments conducted on their home farms, and then let them publish a balance-sheet for the benefit of outsiders.

We must always remember we have in England a most important and uncertain factor to take into our calculations—the weather.

WORK ON THE HOME FARM.

Yes! it is the old story; we farmers are never satisfied. We want rain for the Turnips to-day, and next week we are grumbling because continued wet weather is spoiling our hay. It may be that we are too ready to quarrel with the decrees of Providence, but we fancy that the manufacturer would be quite as ready to complain if he had to run the risk of fire without insurance.

Damage by rain to growing crops, or rather perhaps we ought to say to mature crops, is really so inestimable that insurance is out of the question, therefore the farmer has to take his own risks, and in times of deluge or drought has a right to the sympathy of his neighbours, as much as the sailor or collier, during times of disaster.

The heavy rains have been very serious in the grass districts, for great breadths of hay have been much damaged, and the loss will be severely felt when winter comes, for either the cattle must make the best of inferior food, or the farmer must spend that scarce article—money—in purchasing artificial food to make up for the valuable juices washed out by the rain. Let us hope the weather may allow of the remainder of the hay being well saved.

Turnips and weeds are growing fast, and there is plenty of work for every hand. Most farmers let their Turnips to hoe by the acre, the price varying from 5s. 6d. to 6s. 6d., according to the width between the rows. The men have to go over them twice and leave them properly thinned and clear of weeds. The chance of earning an extra pound or two encourages the men to make greater exertions and longer days, whilst the employer needs only to pass the work before paying the bill, the advantage to him lying in the completion of the work expeditiously and at the proper time.

It will soon be time to wean the lambs, and they should now be having some linseed cake or lamb food; the mothers will get the lion's share, but will educate their offspring in the knowledge that there is something good in the trough.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				
	Barometer at 55° Sea Level	Hygrometer		Direction of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		Rain.
		Dry.	Wet.			Max.	Min.	In Sun	On Grass	
1899.										
July.										
	inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.
Sunday	29.590	58.9	53.4	W.	62.0	66.3	51.2	114.2	51.4	0.030
Monday	29.865	56.2	53.9	W.	60.9	65.2	53.5	101.2	50.2	0.010
Tuesday	30.080	60.6	56.2	N.W.	59.3	72.1	53.7	118.1	50.0	—
Wednesday ..	30.245	66.3	59.1	N.W.	60.0	78.6	50.9	124.4	47.6	—
Thursday	30.240	68.8	64.1	N.W.	62.0	79.6	57.7	125.6	53.8	—
Friday	30.260	72.7	63.2	N.	63.0	84.4	56.1	130.0	52.7	—
Saturday	30.201	71.7	64.4	N.	65.0	81.3	60.3	127.0	56.8	—
	30.089	65.0	59.2		61.8	75.4	54.8	120.1	51.8	0.040

REMARKS.

- 2nd.—A little sun early; frequent slight showers after 11.30 A.M.
3rd.—Overcast day, with slight showers at times; gleams of sun about midday.
4th.—Fair, but generally overcast.
5th.—Bright sunshine almost throughout.
6th.—Sunny, but hazy and close, with thin cloud.
7th.—Bright hot day; cloudy evening; frequent distant lightning at night.
8th.—Bright and hot, but a little hazy in morning.
A fine warm week.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, JULY 20, 1899.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to S. Rose Hill Rd., Wandsworth, S.W.

WINTER FLOWERING CARNATIONS.

IN all gardening operations not the least among the many details which help to bring success is the faculty of persistently "looking ahead," and by management and strenuous endeavour, making the most of every opportunity which occurs to carry out the various details of culture at the right time. During the long spring and early summer months, though the days are lengthy, it is difficult to crowd into each the amount of work one would like to do, but it is generally possible to so arrange matters as to defer for a time the performance of such work as will suffer the least through delayed attention.

The bustle of bedding time is now over, and having provided the materials for a brilliant summer display, our thoughts and attention are naturally directed towards plants which are to brighten the dull days of winter with floral gems. Tree Carnations are decidedly winter flowering plants of great importance, and the present is a capital time to bestow a little extra attention upon them. Plants from cuttings inserted in the spring should now be ready for a shift into 6 and 7-inch pots—which are suitable sizes to flower them in. An excellent potting compost is one formed of three parts mellow fibrous loam, and one of sweet partially decayed manure which has been frequently turned, with sharp sand and lime rubble added. Drain the pots well, pot firmly, and place the plants for a time in a shady position in the open air, when, with one or two daily syringings during bright weather, they will quickly recover from the check consequent upon potting, and begin to grow freely; then they ought to be removed to a sunny position and have the pots plunged to about half their depth in coal ashes.

Such plants should have been stopped a few weeks previous to potting; if this was not done remove the points of each shoot a week after the final potting is performed. This will cause them to send up a sufficient number of strong growths to produce abundance of flowers. Strict attention must be paid to watering during the summer months, being careful not to overwater till roots

No. 2651.—VOL. CL., OLD SERIES.

have freely permeated the fresh soil, and on the other hand, not allowing them to suffer through lack of moisture after that stage is reached, as healthy vigorous plants require a considerable amount of water during bright weather, and an occasional application of chemical manure is of great assistance in securing strong clean growth.

Now let us turn to the treatment of old plants, as such are extremely useful for supplying quantities of flowers during autumn and early winter. Plants which were flowered last season in 6-inch pots, and shifted during April or May into the 9-inch size, will now require attention in the matter of staking. A few stakes placed round the sides of the pot and one in the centre will usually suffice; if the main shoots are tied to these the lateral ones can easily be secured to strong green thread fastened to the outer stakes and carried to the central one. In this way the numerous shoots formed can be equally distributed over the whole space, which tends to insure thorough ripening, and eventually plenty of flowers. All flower stems showing at the present time ought to be removed, and those subsequently formed allowed to extend for autumn flowering. Some varieties, such as *Winter Scarlet*, produce such a quantity of "grass" that I find it necessary to remove the weaker growths to prevent overcrowding. If it is necessary to increase the stock, these will root quickly if inserted in sandy soil and placed in a cold frame or hand-light.

When the tying is completed arrange the plants in an open position and partially plunge the pots in ashes. It is a good plan to allow the plants abundance of room, not only with the object of insuring a free circulation of air among them, but also for the sake of convenience in watering; the operator ought to be able to reach and examine each pot readily. By arranging them in beds having four rows of plants set in angular fashion, and a walk all round the bed, this object is easily accomplished. An occasional application of Clay's fertiliser is, I find, of great benefit to Carnations, so also is a light syringing during the afternoon of bright days.

A good time to remove the plants under glass is during the last week in September, and if placed in a light span-roofed structure where they receive abundance of air on all favourable occasions, they will give a good return for the labour bestowed upon them. Some of the best varieties are *William Robinson* (a large handsome scarlet), *Winter Scarlet* (very free flowering), *Daybreak* (rich flesh pink), *Miss Jolliffe Improved*, *Mrs. Leopold de Rothschild*, *Lady Nina Balfour*, and *Flora Hill* (a grand white).—H. D.

PINCHING FRUIT TREES.

IN bearing out my opinion, given in our *Journal*, May 11th, page 393, that pinching does assist fruit bud formation, I will deal with a Pear tree which was planted under unfavourable conditions. For the last ten years it has not produced a blossom, but has made plenty of growth, also formed numbers of incipient blossom buds. These have only advanced to a certain stage, which I call the dormant stage, at which they remain.

I will now endeavour to explain why I think pinching assists blossom bud formation. The tree in question is full of buds which never elongate into growth. These buds swell to a certain size, at which they stop. At the base of each bud are from three to five leaves; these leaves die away each year, and the following year the same number of similar leaves appear around the same buds as before, all growth buds bursting in direct opposition to these dormant fruit buds. This tree for ten years has had the side growths from the main branches summer pinched, and the leaders pruned only in winter. As a result we have clusters of spurs from top to bottom of the branches.

Under the bark of these spurs may be found any quantity of nodules, caused, in my opinion, by the tree depositing starchy ingredients suitable for the manufacture of fruit buds. The deposit at this point is, in my view, the result of a check to the free movement of the sap, brought about by pinching. The moment the pinching is done the sap is diverted and takes a more or less circular course; it becomes thickened and sluggish, organised matter is deposited, and a bud forms at the point at which the sap is checked. It will often be noticed that while Pears and Apples are forming their pips a check to the sap takes place and causes a bud to form at the base of the fruit stalk. I think if the young growths were not pinched no extra incipient fruit buds would appear, for the simple reason there would be no spurs for them to form upon. I claim that pinching has completely covered this barren tree with spurs.

It will at all times be noticed in fruit culture that the less growth a tree makes the more fruit buds it produces. Compare a pinched Red Currant tree with one that is not pinched. In the month of October the former will be full of prominent buds, quite 30 per cent. better than the other. This convinces me that wherever the flow of sap is checked it assumes a different course, and its action on a given point results in an embryonic fruit bud—a new birth, if

you like to so call it. If no obstruction to the sap takes place the richness of the tree runs to waste in the form of fruitless growth. In a well managed and pinched tree, I think in a given space we get three blossom buds to two on non-pinched trees. I also fancy that trees, say Apples and Pears, from the time the bud formation takes place until it develops into blossom, is about four years, and it is with different aged buds that the supply is kept up.

Now, suppose I lifted this barren tree, and replanted it under the best conditions, I should not be surprised to see it the year after to be one mass of blossom, produced from buds that had for many years been in a resting stage, and only casting off three to five leaves. I think the more spurs we add to a tree, provided the tree is planted under favourable conditions, the more fruit buds are likely to be produced, and I shall go on pinching.—H. MITCHELL, *Druidstone*.

A SUMMER DAY IN NORTH NOTTS.

ST. JOHN'S Day! an old festival fully observed with pomp and ceremony in many a country side years ago, has somewhat fallen into disuse in this age of progress. After passing the spring and early summer in the dusty purlieus of a large town the longing for fresh air and fair scenes became unbearable. To think the wild Roses were blooming somewhere, that the meadow grass was down, that the gardens were at their best, and we were missing it all, it was not to be endured. A pleasant railway journey through a flat country was soon accomplished. The day was perfect, showers had washed the trees and refreshed the grass, gentle breezes prevented the heat of the sun being overwhelming, and everything looked in holiday trim. Were things better than usual really? or was it the force of contrast? It was only of dire necessity we had left our country home. The town life was not of our choosing, and once clear of the town we felt new life in our veins.

From a farming point of view North Notts may leave much to be desired, from a picturesque point of view nothing. What forest tree do you admire most—King Charles' Oak, the tall Elm, the far-spreading Beech? They are all here in battalions; singly in the fields and parks, majestic in the avenues; so well grown; no Mushroom here, and just now the green is at its deepest and best. The land in character is undulating. Many, or rather all the hedges were untrimmed, perfect treasuries of all that is beautiful. There must be Briars here to supply all the Rose growers of England. In half a mile how many different varieties of Rose you will come across; some quite a deep deep pink, some purely white, some so large as to hint at cultivation, some only fit for fairy garlands. I misdoubt me if our vaunted garden dames are an improvement on these children of wood and hedgerow. The difference is as the difference between a fair girl of eighteen and the matured charms of a woman of the period.

Twisted low down in the hedge are the tendrils of the Honey-suckle. Modest and unpretentious, yet more fragrant than all the scents of Bond Street. Just a step further on and the Elder presents its masses of creamy bloom, most delicious out of doors, but oppressive within four walls. Who makes Elder-flower wine or Elder-flower face water now? All these pleasant arts are lost. Only a few old women even use the luscious berry when it ripens under the autumn sky, yet where is there a better or more comforting cordial than Elder syrup cunningly concocted with spice and sugar? We are too fond of running to the chemist for our perfumes, balsams, and soothing drinks. We have lost the greater part of our plant lore, and are the worse for it.

How lavishly the Briony spreads her festoons around. Is she prettier now, or when decorated with strings of coral berries? The berries are in perfection as the leaf falls. You cannot have both. There is not much Hemlock left, but Ladies' Finger is thick in the grass, the bright yellow making a charming touch of colour. In these old hedges you come on clumps of Privet—the flowers of an ivory white, and the trails of Bramble are everywhere. Forget the Thorns, or go with thick gloves, and you will find that sprays of Bramble, with the half opened flowers, will make splendid decoration for an overmantle. This soil must be peculiarly suited to the tall pink Foxglove, for it is everywhere so stately, so queenlike, and withal so gracious. What child can resist it! The posy is so soon complete. Bracken and Fern always accompany it. Where you find one, the other is sure to be.

As the serpent was in Eden, so among this beauty lurks the Deadly Nightshade. Even if one did not know of its fatal qualities it is a plant one instinctively shrinks from. Close at your feet is a patch of tiny Heartsease. How can the giant Pansy have been evolved from so humble a beginning? Quietly the river flows through the low-lying meadow, and quite unexpectedly we come across several graceful swans, that give the necessary life and animation to the scene. The convictions that filled the breasts of the Pilgrim Fathers must have been deep and sincere ere they would leave these peaceful meadows to brave the unknown dangers of the North Atlantic, and the

inhospitable forests of the New World. Do we make such sacrifices nowadays?

The hand of the true born Britisher is much in evidence on the bark of a fine Beech avenue. Many of the dates have grown out; we found one early in the eighteenth century date, initials and heart, that had widened and grown with the growth of the tree—the carver's hands are dust—the trees are as young as ever, and barring a tremendous gale, are immovable. Poor, weak man, how short is his span of life! Returning after an absence of forty years to find only a few frail old women and tottering men that have any remembrance of us or our forebears. A stranger would ask, Why call that field "Drover's Dale;" where is the connection? Long, long ago, when the traffic on the great North road was at its zenith, the patient cattle and tired panting sheep were turned off the main road and rested on these common lands, getting a mouthful of grass and a welcome drink, none interfering. Now you hear the shriek of the passing train and see the cattle trucks; the droves have disappeared; the dale is enclosed, and only the old name recalls the past.

We are close on the old forest, and where bits still exist they answer to the description found in the first chapters of "Ivanhoe." Gurth is gone, Wamba is no more, their places are taken by spruce begaistered keepers, and the grunting swine have given way to the glossy pheasant who is as greedy of Beech mast and acorn as ever were they. Is the modern breech-loader more effective than Robin's cloth yard shaft? I do not think he would approve of the noise and smoke and the army of beaters. The arrow that carried the stag's death warrant sped noiselessly on its errand, and was always effective, but the sportsmen were fewer, and they killed for food, not for the mere love of destruction. Could they return they would find the "dapple deer" hand-fed and tended, not roaming at their own sweet will and pleasure, but with curtailed bounds, unknown crops on the cleared lands, unknown dialect in the peasant's mouths. The smoke of the motor car, the flash of the bicycle wheel, the march of modern innovation on every side, and finding no place for themselves, they would softly glide away like the ghosts that they are.—THE MISSUS.

GILLENIA TRIFOLIATA.

GILLENIA trifoliata, of which "R. J. D." sends a specimen for identification, is a North American plant included in the great Rose family, and usually attains a height of 2 feet, being compact in habit, and flowering freely. The leaves are formed of three leaflets, as the name implies, each being pointed and serrated at the margin. The flowers have five white linear petals, and are borne in loose panicles at the upper part of the stem. It frequents damp and boggy places in its native habitats, but it is not particular under cultivation, almost any light well-drained soil suiting it. The plant cannot be described as one of the most showy; but the slenderness of the stems and flowers imparts a degree of elegance to it that entitles it to some consideration.

THE INTERNATIONAL CONFERENCE ON HYBRIDISATION.

THE SECOND DAY.

THE Westminster Town Hall was chosen as the venue of the second day's proceedings. The change was necessitated by the fact that two of the lectures down on the schedule were to be illustrated with lantern slides, and of course a tent in Chiswick Gardens was not to be thought of for these. The gathering was rather smaller than that of the previous day, but the enthusiasm showed no diminution, and the audience could lay claim to being really select.

Professor Sir Michael Foster had been announced to take the chair, but at the last moment was prevented by illness from performing that duty. However, a capable substitute was found in the person of the Society's Professor of Botany, the Rev. Geo. Henslow, who took his place and commenced proceedings shortly before 2.30 P.M. The preliminaries were of the briefest, and the meeting was soon paying close attention to Mr. Herbert J. Webber of Washington, the special envoy sent by the United States Department of Agriculture, who dealt with the progress of

PLANT HYBRIDISATION IN THE UNITED STATES.

The lecture was profusely illustrated throughout, and the interest in it never flagged. Seeing that the work had only been commenced in America some three years ago, said Mr. Webber, full results had not yet been obtained. The experiments taken in hand had been chiefly in connection with the main horticultural and agricultural products of the States, and the Orange had figured in one of the most important sets of these experiments. In 1894 and 1895 there had been a destructive "frez" in Florida, and the Orange crop had been ruined. It was seen that a hardier variety was wanted, so attention had been turned to Citrus trifoliata, a deciduous Japanese

species, which, although bearing comparatively poor fruit, was hardier and later in flowering. Numbers of crosses had been effected between C. aurantium, the Sweet Orange, and C. trifoliata, and hybrids showing many variations had been brought into existence. Some of those which were intermediate in character assumed the trifoliolate character of the foliage, but in all these cases the ventral leaflet showed a tendency to elongate. One curious illustration of triplet plants coming from the same seed showing great diversity of form, elicited the explanation from the lecturer that most species of Citrus were polyembryonic, but that the plant originating from the embryo proper of the egg cell alone appeared to be affected by the cross, and assumed the intermediate character. Other plants were, however, produced by adventitious embryos, and these were simply reproductions of the seed parent as far as appearance went. The same thing was observed where the Tangerine Orange had been crossed with C. trifoliata. Illustrations of reciprocal crosses were shown in both instances.

It had been found that true hybrids were much more vigorous in habit than either of the parents, and this fact was well brought out



FIG. 15.—GILLENIA TRIFOLIATA.

in the various slides. Attempts were being made to cross the Tangerine and the common Orange, as well as the latter and the Bittersweet Orange. The union of the Bread Fruit and the Orange had given them one of their most useful fruits—the Pomeloe.

Pine Apples, too, had been taken in hand with a view to obtaining varieties more like the Smooth Cayenne, but more disease-resisting and spineless. He had about 1000 seedlings developing, and there was a good deal of variety among them.

The two chief forms of Cotton grown in the States—viz., the Upland and the Sea Island, had been under experiment, and already definite results had been obtained that bade fair to prove of considerable commercial value. Not only were the hybrids more vigorous in habit, but the staple of the cotton had been improved by the influence of the Sea Island variety, whose fibre was long and silky. What was wanted was a strain of Upland Cotton with a smooth seed; the latter being important for mechanical reasons in preparation.

Attempts had also been made to cross the cultivated Maize with its wild progenitors in Mexico; but, so far, there was little progress to report.

Mr. Webber concluded by giving a number of figures referring to the various crosses.

In the short discussion that followed the delivery of the lecture questions were asked by Mr. C. C. Hurst, Mr. Bateson, and the Chairman, and satisfactorily replied to by Mr. Webber.

THE MICROSCOPIC STRUCTURE OF SOME HYBRIDS.

The microscopic study of primary hybrids is puzzling enough, but becomes infinitely more so when four or five distinct species are embodied in a particular plant as the result of reiterated crossing. Any lecture dealing with microscopical structure must perforce be technical, and so Scotland had confided the task to one of her most level-headed botanists, Dr. J. H. Wilson, F.R.S.E., of St. Andrews. For fully an hour Dr. Wilson spoke of the minute differences that the microscope brought to light in the hybrid progeny. No variation was too slight to be noticed by the Doctor's keen eyes, and he was assisted in his task of pointing out to the meeting some of these minute differences, which mean so much, by a lengthy series of excellent slides. Several representative genera were chosen, and a wealth of detail was given concerning them.

The *Pasifloras* were taken first, and it was shown how the simple-leaved *P. Buonanartes*, and the five-lobed leaved *P. cœrulea* gave rise to a hybrid with three-lobed leaves. *P. Buonanartes*, it was mentioned in passing, was itself a hybrid, having been called into existence by the union of *P. triangularis* and *P. alata*. The flowers of parents and hybrids were shown entire and in section, and attention was called to the marvellous development of the corona filaments. *Pasifloras* would not set seed to their own pollen, but would seed very readily to the pollen of another species. Speaking of failures, he said that these often occurred where first flowers were being dealt with, for they seemed to be too well nourished to give the best results, and later flowers often did very much better. A cross between the trifoliate *P. alba* and *P. Buonanartes* ought, following precedent, to have yielded a two-lobed leaf, but instead of that the leaves were trifoliate. *P. alba* × *P. cœrulea* Constance Elliott had produced a plant with trifoliate leaves. The leaves of the hybrid between *P. alba* and *P. edulis* showed a great tendency to yellow variegation.

The genus *Albica*, which is a close relative of the better-known one of *Ornithogalum*, next came in for discussion. *A. prolifera*, *A. caudata*, *A. Nelsoni*, *A. fastigiata*, *A. corymbosa*, and *A. tricophylla* had all been used, and, judging from the mass of details presented, Dr. Wilson had spent no small portion of his time in crossing and recrossing these species. Some of the ultimate hybrids represented five species, and yet the plants were healthy and bore seeds fairly well. Numerous illustrations appeared upon the screen of all parts of the plants—leaves, bulbs, and flowers—in longitudinal and transverse sections. Particular attention was directed to the varying shape of the hairs, and the influence of the parentage of *A. tricophylla* was most marked in this respect. In some of these minute hairs the basal part appeared to belong to one parent and the terminal portion to another. This question of the morphology of hairs led Dr. Wilson to make the statement that it was to the nuclei of simple cells that we should have to look for the ultimate elucidation of many problems that now appear to be unanswerable.

The famous cross between the Gooseberry and the Black Currant was next dealt with, leaves of both parents being shown and the truly intermediate character of the hybrid commented on. The "cross" was furthermore found to possess no traces of the strong, essential oil that characterised the Black Currant. Perhaps the most interesting illustrations of all were those given of the hybrids between the tuberous *Begonia*, *B. coccinea*, and *B. corallina*. The leaves of the hybrids were found to be thickly spotted with silvery spots like those of the fibrous rooted species. The vegetative growth was remarkable, for while all sorts of intermediate stages were to be seen, most of the plants on going to rest in the winter did not die right down, but portions of their stems snapped off joint by joint, leaving a perfectly healthy scar, like that caused by a falling leaf. Tubers were likewise developed at the base of the stems just above the ground. *B. semperflorens* and *B. fuchsoides* had also been successfully crossed.

References were likewise made to hybrids between *Centaurea ragusina*, *C. candidissima*, and *C. scabiosa*, and between *Abutilon megapotamicum* and a variety of *A. Darwini*.

HYBRIDISATION VIEWED FROM THE STANDPOINT OF SYSTEMATIC BOTANY.

So many allusions had been made to the trouble caused to the systematic botanist by the way in which the hybridist was continually upsetting his classification, that Mr. R. E. Rolfe's paper upon the subject was eagerly looked for, and people settled themselves comfortably in their seats as that gentleman mounted the platform. Mr. Rolfe did not, however, read his paper *in extenso*, but contented himself by giving a brief digest of the line he had taken. Surprise was expressed in some quarters when the lecturer proceeded to make out a strong case for the hybridist. If hybrids did not exist in nature, said

he, then the systematist would have been justified in complaining at the way in which generic distinctions had been broken up. Natural hybrids undoubtedly did exist, however, and they were, in fact, quite common among the *Salixes*, the *Hieraciums*, and the *Rubuses*. Some of these hybrids had been described by botanists as new species, but that they were really hybrids had been proved by the way in which they had been artificially reconstructed. He had drawn up a list in his paper of natural hybrids that had been reconstructed in this way. These included nine *Salixes*, several *Hieraciums*, and twenty-two *Rubuses*, but unfortunately no *Roses*. Some of these hybrids were sterile, but many were fertile. In the genera *Rubus* and *Hieracium* botanists were continually differing as to whether certain plants were true species or not. Some of these plants of uncertain status had probably arisen by polymorphism of good species, and others were of hybrid origin.

Mr. Hurst had told them on the previous day that instead of the hybridist having a confusing influence upon the classification of plants, the systematist would have to go to the hybridist to clear up many of his difficulties, and as a systematist himself Mr. Rolfe thought Mr. Hurst was right.

HYBRID POPPIES.

Monsieur Henri de Vilmorin received quite an ovation as he appeared on the platform with a sheaf of dried and mounted specimens of the hybrid Poppies he was going to speak about. The parent plants involved in the first cross were *Papaver bracteatum*, a form of the perennial *P. orientale*, and the annual *P. somniferum*, the Opium Poppy. The cross between the two had been tried repeatedly, and invariably succeeded, but the plants, although they bloomed very freely, would set no seed. The first hybrids all had scarlet flowers with a black blotch at the base of each segment, and the plants were taller and more vigorous than either of the parents. On sowing the second year with the original seed plants bearing flowers lacinated petals first appeared, then came paler flowers, still single and still blotched, and then last of all the double flowers. For the last four or five years selection had been carefully carried on, and now the double race came fairly true from seed. *P. orientale* was next crossed with the hybrid, which, of course, brought the progeny much nearer to *P. orientale*. The plants began to throw up new stems from the ground as the old ones flowered out, and the ultimate result was a perpetual flowering Poppy. The primary hybrids were annual, but the compound hybrids were perennial, although they were a little tender.

There were papers from Monsieur Lemoine, Mr. Luther Burbank, and Mr. T. Francis Rivers, but as none of these gentlemen was present, and there yet remained half an hour to spare, the meeting was thrown open to the general discussion of any points that had either been missed or seemed to require further elaboration. The meeting was not slow to take advantage of the Chairman's invitation.

Mr. F. W. Burbidge spoke of the trouble that had been caused in the naming of hybrids where the Latin language had been employed, and he expressed the opinion that Latin names should no longer be given to garden plants, including hybrids. A compromise had been effected that had so far answered fairly well, such as *Lælio-Cattleya* for the offspring of *Lælia* and *Cattleya*, and *Philageria* for the cross between *Philesia* and *Lapageria*, but the names were clumsy, and it would be impossible to carry out the system when three or four species were embodied in one plant.

The Rev. Geo. Engleheart brought up a number of practical points. He thought a handbook was wanted, wherein the would-be hybridist could find the information he required. Some of the so-called information that appeared in books was misleading, as for instance where the crosser of *Daffodils* was advised to tie up the mouths of the trumpets to exclude the insects. He did this once, and found he got no seed. He suggested, too, that it should be possible for the raiser of a new plant to have some sort of patent rights over his plants, in order to insure an adequate reward for his labour.

In this Mr. Geo. Paul fully concurred, and instanced the case of Cox's Orange Pippin, which, while it was now grown everywhere, had not returned a penny to its raiser. He should like to see the raiser of a new plant get two, three, or four years' right of production, plus the right to grant to other people permit to propagate.

Mr. Geo. Bunyard hastened to express his disagreement. It remained, he said, for the person who raised a plant to sell it at his own price; and he advised the plan of taking orders for novelties, but not selling until sufficient orders had been booked to yield a fair return.

Dr. Masters and Mr. Cuthbertson took part in the discussion, the latter gentleman speaking of hybrids that he possessed between *Aquilegia* and *Clematis*, and of which he offered to send seed for trial to those interested.

Professor Henslow proposed that the thanks of the Society be given to all those who had contributed papers, especially to their foreign guests, and this being duly ratified, the business proceedings of the Conference terminated.

THE BANQUET.

Following the example set at the international horticultural gatherings upon the Continent, a grand banquet was held at the Hotel Metropole on the evening of Wednesday, the 12th inst., as a wind-up to the business of the Conference. Dinner was laid for 7 P.M. in the Whitehall Rooms, but previously Sir Trevor and Lady Lawrence received the guests and visitors in an adjoining room. The famous Whitehall Rooms have seen many festive gatherings, but surely never one at which more artistically decorated tables were to be seen. Not only were the flowers and plants good in themselves, but the way in which they were arranged was really tasteful.

The presidential chair was set about half way down a commodious table running the length of the huge hall, and from it there branched other tables at right angles. Sir Trevor Lawrence, in his official capacity of Chairman of the Society, presided, with Lord Justice Lindley (the Master of the Rolls) on his left hand, and his Excellency, the Belgian Minister of Agriculture, Baron Whentnall, on his right. The room was well filled, and the gathering was not only representative of the élite of British horticulture, but was graced by delegates from many friendly nations. The United States sent Mr. H. J. Webber, Mr. Fairchild, and Professor Swingle; Germany sent Herr Carl Schmidt and Herr Wilhelm Pfitzer; M. Mark Micheli represented Switzerland; the honour of the Netherlands was well sustained by Professor Hugo de Vries, Baron Goldschtein, and Messrs. Krelage, junr., and Simon de Graaf, and France sent Mons. Henri de Vilmorin and Mons. de la Devansaye.

Sir Michael Foster, Herr Ernst Benary, Mr. Joseph Chamberlain, and Mr. Walter Long, all of whom had intended to be present, were notable absentees.

British horticulturists and scientists were a strong muster. Cambridge sent one of her worthiest sons in the person of Mr. W. Bateson, and Messrs. N. N. Sherwood, Harry J. Veitch, Jas. H. Veitch, R. Sydenham, H. Turner, F. Moore, F. W. Burbidge, Geo. Paul, G. L. Paul, de Barri Crawshaw, T. B. Haywood, Jas. Douglas, R. A. Rolfe, C. C. Hurst, Chas. E. Shea, Geo. Bunvard, P. Kay, J. W. Barr, P. R. Barr, J. G. Barr, P. Crowley, J. Heal, J. Seden, Jas. Hudson, F. Sander, R. P. Ker, S. T. Wright, W. Roupell, and others were all there. The Rev. W. Wilks and the Rev. Geo. Engleheart, keen hybridists both, upheld the honour of the clerical contingent. The presence of ladies, too, added much to the sociability of the evening. Lady Lawrence, Mr. Harry J. Veitch, Mrs. J. H. Veitch, and Miss Douglas being visible.

The toast list was not a long one, but the subjects were such that fairly lengthy speeches were needed to do justice to them. In giving the customary loyal toasts of "The Queen, the Prince and Princess of Wales and the remainder of our Royal Family," Sir Trevor alluded very appropriately to the fact that our August Lady was patroness of the Society, and that the Prince Consort was for some time before his death its President.

In the absence of Sir Michael Foster the task of proposing the toast of "Horticulture" devolved upon the Rev. Geo. Henslow, who in a few minutes managed to run through the ages from that far-away time when a certain king stole a poor man's garden and killed its owner, in order to make a garden of herbs, right down to the prosaic nineteenth century, with its Royal Horticultural Society and its Hybrid Conference. The ancient Romans cultivated few flowers, for the Mediterranean region was so full of beautiful wildlings that the art of the cultivator was not wanted. Beans and Lettuces were grown, and grown well, and the Romans were very proud of them, but they did not hybridise the few plants they cultivated. There was nothing to be said about the Middle Ages, for it was not until the sixteenth century that flowers began to be cultivated, and not until the eighteenth century that Britishers took much notice of their gardens. From 1810 to 1824 a lot of new plants were brought into the country, and the introduction of the Chrysanthemum in 1845 by Fortune marked an important epoch in the history of plant breeding. He coupled with the toast the names of Mr. H. J. Webber, Prof. Hugo de Vries, and Mons. Henri de Vilmorin, all of whom responded in the order named.

Mr. Webber avowed his intense pleasure at being able to bring from across the seas not only the friendly greeting of kinsmen, but also a special greeting from the States Secretary of Agriculture. Mr. Webber expressed a confident hope that the Conference would lead to great results. Hitherto the value of the work accomplished by the hybridist had been but imperfectly known, and he alluded to the feeling that had found expression in the afternoon's proceedings that the raiser of new plants should have something more remunerative than mere honour to reward his labours. The man who in any way lightened the struggle for existence, and put bread into the mouths of starving people by improving crops, was far more deserving of honour than the man who carried the curse of war into his neighbour's fields. Science was an international property, and it was their duty to popularise scientific and practical horticulture by every means in their power. He looked forward to a time in the near future when such a movement would meet with its own reward.

Professor Hugo de Vries said that the feature of the Conference that had made most impression upon him had been the manifest desire to bring all men of science together, for the first paper of the Conference had been contributed by a zoologist. The Professor "raised his glass" to the continuity of the scientific work thus begun.

Monsieur de Vilmorin, after acknowledging the compliment that had been paid to France and himself by coupling his name with the toast, averred in emphatic terms his profound belief that too much could not be said about the improvements that enlightened horticulture had worked. Horticulture was the highest and most perfect form of agriculture, and yet both were now working under difficulties. It was an open problem whether it was better to use coals to drive steamers that brought the produce of sunnier climes to our doors or to use that coal for heating purposes to produce early crops at home. Plants were our tools, and in striving to improve the "plants" horticulture was only trying to do what every other trade and profession was attempting.

The toast of "The Hybridists" was placed in the hands of Mr. Bateson, who, after humorously declaring that the hybridist who broke the laws of Nature was like the man who broke the laws of the land, in that he often did not know what the laws were until he broke them, went on to urge the necessity there was for the establishment of some permanent body under State control to carry on the work of investigation regularly and steadily. Much could be done by private enterprise, however, and at least he felt sure that the Royal Horticultural Society's experiment in hybridisation would not be sterile, but would produce fruit that would be awarded an F.C.C.

Professor Swingle, with whose name the toast was associated, brought forth a storm of cheers by his allusion to the "sacred soil of England." The professor expressed his confidence in the future that was in store for horticulture as an art.

The toast of the evening, "The Royal Horticultural Society," came from the lips of Lord Justice Lindley. It might be, he said, a matter of some speculation and surprise to many that an old lawyer like himself should have been entrusted with this toast, but he was the proud bearer of an honoured name, the name of a man who for thirty-five years was the life and soul of the Society. He himself could remember the time when the great Chiswick fêtes were an attraction for all the rank and fashion of the country, when the Society's exertions took the form of sending out explorers and collectors to foreign lands. He could well remember the fiery Douglas who introduced the Douglas Fir, and who met his death by being gored by a buffalo. Hartley the cool and Fortune the Scotsman, who added to his high cheek-bones an extensive knowledge of Chinese and consummate dexterity with chopsticks, were both known to him. Those were the days when money flowed in. Then came a period of decadence, possibly owing to competition. They went to South Kensington, and there they could hardly pay their way. Now once more they were basking in a spell of prosperity. The Society appealed more to these of scientific instincts than to the merely wealthy, and thanks to the excellence of the organisation, the lowering of the scale of subscriptions, and the energies of the executive, the later policy had been crowned with success. The latest development seemed to foreshadow "a treat for the lawyers," seeing that the possibility of instituting patent rights for new plants had been discussed.

Sir Trevor Lawrence, who, by virtue of his position, is intimately connected with all the innermost workings of the Society, responded at some length. Passing allusion was made to the work of Thomas Andrew Knight and Banks, and the burden of obligation to the Society under which Ceylon and India lay, seeing that it was directly owing to Robert Fortune that the centre of the tea trade was shifted to those countries from China. Again, to quote from Andrew Murray's book, "nowhere could a day's drive be taken in our own country where the landscape would not be found to have been beautified by the results of the Society's work." Sir Trevor reminded his audience that there was no society that depends upon the fickle tastes of fashion but would sooner or later come to grief. The policy of the executive of late years had been "to stick to horticulture," and the results had amply justified this policy.

Two things were wanted badly—first, a horticultural hall in London; and second, a new garden, for Chiswick had become too small and too near London.

In the absence of Sir John Llewelyn, Mr. C. E. Shea gave "The Visitors." He had been much impressed that afternoon, he said, over the almost fierce utilitarianism of the United States. They had a frost which spoiled their Oranges, and they straightway set to work to evolve a variety that the frost could not spoil. Mr. Shea waxed humorous over the way Lemons were cut in half, thrown into barrels, covered with harbour sludge, and sent from Messina to the United States to make various drinks with. He did not wonder that the States were now trying to grow their own Lemons.

The Belgian Minister, his Excellency Baron Whentnall replied, and expressed a wish that his thanks could only be as eloquent as they were sincere. He felt thoroughly at home on British soil, and the quality of British hospitality was known the world over.

The Chairman was toasted by Monsieur Mark Micheli, who like the rest of the foreign delegates spoke in English.

Sir Trevor in making his acknowledgment spoke of the failing of Englishmen to learn foreign languages, and said that at horticultural gatherings upon the continent most Englishmen had to ask to be allowed to speak in their mother tongue.

Early in the evening a photograph was taken of the assembly by Messrs. Tridelle & Young, of Regent Street, and a print was taken, mounted, framed, and placed in the President's hands before ten o'clock. To use Mr. Webber's own words, "it could not have been done more smartly in America."

Although the official meeting was broken up soon after ten, conversation was busy in a number of groups for some time after, so all-absorbing did the subject of hybridisation prove. The opinion was generally expressed that this Conference should be followed up by others in the near future, and Anglo-Saxon and foreigner only parted after a series of hearty handshakes and a chorus of mutual good wishes.

PEAT MOSS LITTER AND GARDEN CROPS.

As large quantities of peat moss are used for bedding, not only in town stables, but also in the country, the question of its value as a manure for garden and field crops is important. Peat moss litter was not used generally until after the scarcity of straw in 1893, in consequence of the drought, and since that time its use has continued on a larger scale than previously. Among the advantages claimed for peat moss may be named its great power of absorption of moisture and ammonia. The atmosphere of stables where it is used is thus largely freed from the smell of ammonia, and rendered more healthy.

The three principal litters used for horses are wheat straw, sawdust, and peat moss. They have different absorbent powers. Wheat straw will absorb three times its weight of liquid, sawdust four times, and peat moss eight times. The litters have also diverse compositions, which as manure are expressed in contained nitrogen, phosphoric acid, and potash. A ton of wheat straw contains 10½ lbs. of nitrogen, 6½ lbs. of phosphoric acid, and 12½ lbs. of potash. One ton of sawdust contains 6 lbs. of nitrogen, 6 lbs. of phosphoric acid, and 12 lbs. of potash. A ton of peat moss contains 17½ lbs. of nitrogen, 6 lbs. of phosphoric acid, and 12 lbs. of potash.

The estimates take no account of the other elements, misnamed "minor," for are not soda, lime, magnesia, iron, sulphuric acid, silica or silicic acid, and chlorine essential to the health of the plant? The subjoined analyses by Dr. Emil Wolff are suggestive of the intrinsic value of the minor constituents:—

	Wheat straw.	Pinewood sawdust.	Sphagnum peat moss.
Potash, K ₂ O	18.13	17.14	16.92
Soda, Na ₂ O	2.77	2.02	8.10
Lime, CaO	27.75	36.38	11.51
Magnesia, MgO	4.47	12.36	6.59
Iron, Fe ₂ O ₃	3.63	—	17.53
Phosphoric acid, PO ₅	4.22	7.55	6.54
Sulphuric acid, H ₂ SO ₄	0.766	5.34	6.36
Silica, SiO ₂	43.14	2.88	16.13
Chlorine, Cl	2.72	—	6.06

From a plant point of view Wheat straw manure is the sweetest. It contains a considerable amount of lime, meaning, with sulphuric acid, not of the manure or straw, but of the soil, sulphate of lime—a well known corrective of sourness; the straw also contains the opener of soil and the strengthener of tissue—the much abused silica or sand.

Sawdust, still keeping to a plant view, appears sweeter than even Wheat straw from containing more lime, but this is counterbalanced by the magnesia, sulphuric acid, and the small proportion of silica or sand. Still I have used sawdust manure for loose boxes extensively and satisfactorily in the production of crops on light, dry, gravelly soils; peat-loving plants growing well in it.

Peat moss contains much less lime than either Wheat straw or sawdust, meaning more ammonia "held," or less evolved into the air; it has also greater tendency to sourness in the soil, unless lime be present to modify the sulphuric acid and correct organic acidity. Another factor in the way of sourness is the iron, and in the way of hindering the growth of useful vegetation the chlorine, especially where the soil is of a retentive nature.

The foregoing briefly covers the ground as regards the difference in articles named as litters and manures. On light, sandy or gravelly soils peat moss manure answers admirably, for the nitrifying micro-organisms obtain the essential nitrogen or organic matter needful for conversion into nitrates from ammonia, and thence back (not forward) into the all-important nitrates with bases, such as lime, potash, and soda. The organic matter in a light soil tends to ammoniate the iron and render it useful, and as for the chlorine the rains wash it away. On a heavy soil, or one with a wet, cold bottom, peat moss manure acts the exact opposite. The lime is not sufficient to prevent the tendency to sourness, the iron and the chlorine cling

to the land, and, as your correspondent states, poison it by imparting to the land the sourness of the bog, which is only fitted for growing Sedges and Rushes.

What is the corrective? Lime. What form? Basic slag phosphate for damp, or heavy, or retentive soils, good limestone with some magnesia in it for vegetable earths; chalk lime for loams; and bonemeal for light lands. A ton of the respective sort is not too much to mix with 15 tons of peat moss manure, and that quantity of it thus prepared per acre is worth 25 per cent. more than straw manure.

Peat moss manure has a bad character. A farmer used it for Peas in the raw state at the rate of 40 tons per acre, and simply sowed the land for that crop, and even Cabbage after it. But the land grew splendid Celery after the Cabbage and grand Vegetable Marrows. Soil a calcareous gravelly loam with a rather stiff subsoil. Too much peat moss manure had been used, because easily obtained near a town, and the cultivator neglected to use lime or gypsum.

A gardener has this summer used peat moss manure for growing Cucumbers, but took the precaution to "sweat" it by throwing it into a heap, and when hot turning the outside into the inside of the pile. This was done on the advice of his employer—a man of science, who did not mind sacrificing some ammonia for securing sweet, next to weedless and disease germless manure. Raw meat requires a strong stomach, and so it is with raw rank manure. "Cook" it, and then most soils will appreciate liberal doses—say 15 tons per acre of peat moss manure. This is equal to 20 tons of well rotted stable manure, and neither need cramming into the soil in large quantities, as science has taught us of handy substances that will compensate in value for the reduced bulk applied. The substance used in this case was mineral superphosphate, high-grade, 34 to 37 per cent. phosphates.

The Cucumbers are doing splendidly, but in the absence of the fermentation of the peat moss and mineral superphosphate they would have failed. A good handful of the latter per square yard made all the difference, and it is the same as applied to the outdoor crops of flowers, fruits, and vegetables. The practice recorded may be suggestive to "W. M." (page 6, July 6th), who deserves thanks for introducing a very interesting and important question.

But I must not omit to mention that in a corner of the garden alluded to are certain heaps. These represent the debris of crops, weeds, and other refuse. Some are fine mould, others half decayed, others again quite raw. There are also two heaps of gas lime, one fresh and the other stale. The fresh gas lime was used for sprinkling on the garbage of the garden, including Cabbage stumps, flowering plant trimmings, and prunings of fruit trees, in layers. After a time this heap is turned over, woody matter and Cabbage stumps thrown aside, and, when dry, burned, adding the ashes to the heap, with a fifth of the gas lime, and as a similar quantity was used in the first instance of fresh gas lime, the compost practically contains ten parts (considerably more by reduction of the vegetable matter) of sulphate of lime or gypsum. The stale gas lime was also used for mixing with the peat moss manure, after being heated, as before described, about a fifth part being employed. Thus the man, with the aid of the master, knew how to prepare manure—even peat-moss litter—and garden refuse.—G. ABBEY.

I WAS interested in reading the note of "W. M." on peat moss litter as manure (page 6), in that it corresponds so thoroughly with my own experience. Some few years ago I had charge of a large garden, where there was an unlimited supply of straw manure from a large stud of hunters, with the consequence that the garden was very fertile. Then came a change, and peat moss was used for bedding, and in due course for manure.

During the first year everything went on as usual. But (and this is a big "But," for most of the land had been dressed with peat moss) the following spring crops began to look unhealthy, one after another showing signs that something was wrong; in fact, every crop except Asparagus suffered alike. Where peat moss had been used for manuring and mulching Strawberry beds or fruit trees the same unhealthy appearance was observable.

In the early part of June a bed of young Strawberries was the first to be thoroughly examined. During the first few months of using this material I mixed some with soil to fill pots in which to layer Strawberry runners. These took to the compost very quickly, and soon filled the pots with roots. At the end of July they were planted in well prepared land manured with the material in question. They grew as well as one could wish, and the following spring set their fruit well; but when the fruits were about half grown a plant began to flag here and there, the collapse spreading until nearly all dried up. On searching for the cause the small ball of soil that was planted from the pot was found full of fungus. There was the source of the evil. And this fungus injured all crops save one. Peach trees that had been mulched lost all their top fibrous roots, and an outside Vine border that was mulched was found on examination to be permeated with the fungus to a depth of several inches.

It appeared to me that when peat moss had been in the ground sufficient time for all urine and other plant foods to be washed out,

that the decaying woody material in the litter caused the fungus to develop.

In reference to *Asparagus* the results were very different. The peat moss refuse formed a splendid mulch and good manure, owing to frequent slight dressings of salt during the growing season, the salt apparently preventing the growth of the mycelium of the injurious fungus, and fine heads of *Asparagus* were cut.

What I found a useful remedy to clear out the parasitical enemy and sweeten the land was a good dressing of hot lime. I procured some freshly burnt lime, had it broken up very small and forked into the land, allowing the soil moisture to slake it; this accelerated the decay of the litter, and burnt up any fungus that was about. I think if "W. M." will try the same remedy he will soon get his garden back to its usual fertility, but I advise him to stop using the peat moss litter as manure.—S. D.

LIVERPOOL NOTES.

VISITORS FROM LEEDS.

A PARTY of members of the Leeds and Horsforth Paxton Society, in all sixty-eight persons, recently left Leeds at eight o'clock, and arrived in Liverpool at about half-past ten. Messrs. R. P. Ker & Sons, of the Aigburth Nursery, provided conveyances to convey the company to places of interest in the neighbourhood, and accompanied by Mr. A. W. Ker, Mr. B. W. Ker, and Mr. R. Pinnington a start was made for the new Palm house in Sefton Park.

Here the handsome structure, given by Mr. Yates Thompson, and so admirably constructed by Messrs. Mackenzie & Moncur, the celebrated builders of London and Edinburgh, was at Mr. Herbert's invitation open for inspection, and the party welcomed by Mr. White, who is in charge. The gigantic Tree Ferns, excellent Palms, and fine frontage of *Gloxinias*, *Hydrangea paniculata*, and other flowering plants, rising from a groundwork of small Ferns, were much admired. So also were the baskets of *Asparagus Sprengeri* models of good cultivation, and almost everyone ascended the fine spiral staircase, to get a "top" view of so rich a scene.

A walk round the large lake, and thence on to the Aigburth Hotel, where a capital luncheon was done full justice to. Luncheon over, Mr. Bussey, as Chairman of the Committee, thanked Messrs. Ker for their great kindness in entertaining them, and this was heartily supported by Mr. Edwards (Secretary) and Mr. Bailey, of the Horsforth Society. Mr. Ranger and Mr. B. W. Ker, on behalf of the firm, spoke of the pleasure afforded in entertaining them.

The Aigburth Nursery was the next calling place, the visitors expressing themselves more than pleased with the houses of *Crotons*, grand Palms and *Cyclamens* (all famous here; the latter seeming to be special favourites with the Yorkshiremen), and other choice stock too numerous to particularise.

To Cleveley, Allerton, was the next order given, and a drive through the old-fashioned lanes, with agriculture on all sides seen in its best phases, was much enjoyed. At the entrance gates to Mr. T. Sutton Timmis' imposing residence, Mr. Cromwell, the respected head gardener, was in readiness for a walk round the well-kept grounds. The splendid specimen *Hollies* claimed attention, and the houses were rich in floral beauty and culture. A telephone message informed us that Mr. Hulbrook Gaskell, J.P., of Woolton Wood, wished all to go to the front of his charming residence, and after another beautiful drive Woolton Wood was reached, the party encountering its well-known owner on the drive, and after a courteous reception Mr. Todd, the genial head gardener, took charge. The greenhouses, stove, and Orchid houses, the latter containing many valuable species, were examined. The truly natural fernery with its splendid Tree Ferns and lovely *Todeas* all lent additional charm. The famous picture gallery, containing the choicest examples, was generously opened for inspection and much appreciated. A drive of some seven miles into the city, a short time for light refreshment, a hearty send-off from Lime Street Station, and the Messrs. Ker with Mr. Cromwell and myself went our several ways feeling convinced that our Yorkshire friends (judging from their remarks) had spent a most profitable and pleasant day.

LIVERPOOL STILL ADVANCES.

Three great works of the utmost benefit to the public of Liverpool were recently completed and finally passed over for the enjoyment of the inhabitants of the city—viz., the opening of the Kirkdale Recreation Ground, the Newsham Park boulevard, and the new aviary in Stanley Park. From the smallest beginnings these beneficial resorts now number about forty, the acreage being nearly 800, and others are already in contemplation.

The Parks and Gardens Committee, under the charge of Alderman Ball, the Chairman, proceeded to Kirkdale, where, on the site of the famous gaol, some 33,000 square yards have been transformed into "a thing of beauty and a joy for ever," luxuriant trees and shrubs, with charming flowering plants being well established. Alderman Ball, addressing the large number present, spoke of the desire of the people for many years for such a ground, and of the increasing number of working-class dwellings, amid which breathing spaces were a necessity. The Corporation, backed by public opinion, had purchased the site from the Government at the price of £2000 an acre, in all £20,000. The cost was high; but it was justified by its utility and necessity, and the site once used for the incarceration of criminals was in the future to be devoted to honest and thoughtful recreation and the advantage of the children of the densely populated area.

Proceeding to Stanley Park another surprise was in store, the old lake having been filled up, and the splendid ornamental grounds, in the centre of which stands the handsome new aviary presented by Councillor J. R. Grant, now occupy the ground. The Chairman said the cost of laying out the ground had been £2185, which he felt sure all would agree was money well spent. He had asked the Council to set aside a modest sum wherewith to build the aviary, but it was rejected, and they had to thank Councillor Grant for so great a gift, also Mr. William Cross, the celebrated naturalist, for the splendid collection of birds. Mr. Grant and Mr. Cross briefly replied. Whilst here the visitors had the opportunity of inspecting the new Palm house (the gift of Mr. Yates Thompson), which the builders expect to complete by October next.

The boulevard, covering 16½ acres, and which has cost for work, exclusive of purchase, £8000, was next opened. Alderman Ball and the Lord Mayor let fall some pertinent remarks, the former stating that until the last three years the district had been neglected, owing mainly to the apathy of the inhabitants. Parks and gardens could not be maintained without expense, and if the people who enjoyed their privileges declined to bear any share of the burden they were bound to take the consequences. The boulevard extends from Prescott Road to Sefton Road. He desired to thank Mr. T. May Smith for his co-operation. The Lord Mayor said there was not a city in the kingdom which had exhibited a more enlightened and generous sentiment in this respect than Liverpool, and he hoped they would continue to apply themselves diligently to this great department of municipal work. The Botanic Gardens, Wavertree, and Sefton Park were inspected, and Mr. Herbert, the chief, and Mr. Guttridge, next in command, are to be congratulated on their excellent work.—R. P. R.

PEACHES AND NECTARINES AS STANDARDS.

IN your issue for June 8th, page 472, "H. R." directs attention to the growth of Peaches and Nectarines as standards, and is of the opinion that more fruit can be grown in this manner than from training in the usual way under the glass. I have long held a similar opinion, and if I were erecting a house—without the restrictions as to cost which are so often brought to bear upon the building of fruit houses—I should provide for the growth of dwarf standards, at any rate in the central portion.

What is required for this system of Peach growing is somewhat lofty structures, that will accommodate the trees without the summer growth pressing against the glass, and having a good width, say from 28 to 30 feet. In Sneyd Park Gardens, near Bristol, the late Mr. James Derham had a fine Peach house erected some years ago, which had a curvilinear roof, with the glass less than 3 feet from the ground surface. It measured 100 feet in length by 30 feet in width, and was planted with a large collection of the best Peaches and Nectarines. Trees were trained to strained wires on the sides of the house to a height of 5 or 6 feet; the central bed having standards in three rows at a suitable distance apart. The middle row was worked on taller stems than the outside trees, which served to fill the space more easily and quickly, and gave, too, a larger surface of fruit-bearing wood. Planted diagonally light reached every tree, the house being span-roofed, and running east and west.

Heavy crops were taken from these trees, and in point of numbers I am sure they were greater than could be obtained from any system of training arranged to fill the same space, and, what is interesting to the private grower, a much greater number of varieties can be planted in this way, unless cordon training is adopted.

In the spring, when the trees were in full bloom, this house presented an extremely pretty picture, and having no sub-divisions the whole of the interior could be viewed from almost any point; while during the ripening period there was ample opportunity for those interested to compare one variety with another. I will not say that the same perfect colour can be had from standard trees as from those trained, and the fruits exposed on the surface of the trellis. It would be scarcely reasonable to expect such a thing, because the conditions are at variance somewhat one with the other. Fine fruits, however, were grown, and some sorts developed a very nice colour, sufficient, at any rate, to satisfy everyday requirements; the finer and brighter coloured fruits from the side trellises provided for special purposes.

As "H. R." points out, standard trees require some care in the choice and manipulation of the shoots that are to form main branches and future bearing wood. Disbudding must be carefully done, and the aftergrowth regulated according to its strength and purpose. Generally speaking I am of the opinion that less labour is involved in standard training than on trellises, as both summer and winter tying are obviated.

As before stated, however, lofty, wide structures are necessary for carrying on this mode of Peach growing with pleasure and profit, for when crowded much trouble is given in the daily attendance, which is not returned in the ultimate results. A border of suitable depth, and from 10 feet to 12 feet in width, would afford a large root-run for young trees that is certain to promote an exuberant growth for a time. Careful root-pruning would be necessary to suppress this, otherwise the trees would become a thicket and produce scanty crops of poorly coloured fruits. Not only is this so, but the labour expended on pinching off waste lateral growth would be considerable.

All trees and varieties do not grow alike, so that it does not follow that root-pruning need be carried out on every tree. Those that show signs of becoming too strong in summer growth are better marked while in leaf, and operated on either in late autumn or early winter. Root-pruning in such trees has a wonderful influence on the future growth, and once well checked by encouraging fibrous roots, it is usually a long time before they give any further trouble.—W. S. Wills.



RECENT WEATHER IN LONDON.—The heat that we experienced early last week showed some signs of diminution on Saturday and Sunday, but the fall in temperature was not sufficient to make the conditions really pleasant. Thunderstorms have threatened, but in the metropolis they have been very local, and not particularly severe. Wednesday opened intensely hot.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, July 25th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. A lecture on "Seed Dispersal" will be given at three o'clock by Professor G. S. Boulger.

HONOUR TO A BRITISH HORTICULTURIST.—We learn with great pleasure that his Majesty the King of the Belgians, by decree signed at Laeken, on June 27th last, has conferred on Dr. Maxwell T. Masters, the editor of the "Gardeners' Chronicle," the honour of Officer of the Order of Leopold. No one could have been more deserving of the honour than the recipient.

DEATH OF MAJOR MASON.—Major Mason of The Firs, Warwick, died at one o'clock on Friday morning, July 14th, at the age of seventy-eight, after being ill only a day. He was the senior borough magistrate, and senior county magistrate after Lord Leigh. He spent the early part of his life in the service of the old East India Company. He was the son of Admiral Sir Francis Mason, K.C.B., and the grandson of Viscount Hood. Horticulturists will be familiar with the name of Major Mason, as he was an ardent orchidist.

ESCALLONIA PHILIPPIANA.—This is one of the best hardy shrubs that flower in July, and by far the best of the Escallonias. While the other species are tender near London, *E. philippiana* will stand any ordinary winter in the open with impunity. It was introduced from Chili nearly thirty years ago by Messrs. Veitch of Chelsea, and is quite worthy of far more extended cultivation than it receives. It is suitable either for beds on lawns or as a single plant where a low shrub is required, as it grows freely in any sunny situation, provided the soil is moderately good. The Hawthorn-scented flowers are individually small, but are borne in such profusion on the terminal and lateral shoots as to amply compensate for their lack of size. They are pure white in colour. The leaves are small, finely serrated, and of a rich deep green. It is easily propagated by cuttings of the half-ripened wood, inserted in sandy soil, and plunged in slight bottom heat.—C.

COTTAGERS' FLOWERS.—Those whose business it is to visit the gardens of the hardworkers in our rural districts not infrequently come upon some evidence of taste in flower gardening that surprise and delight even the most satiated. A few days since at Ashted I saw in the garden surrounding the cottage of a cowman a marvellous show in which tender and hardy annuals, perennials, tender plants, Roses, climbers, and other things were most beautifully and effectively blended, giving a wealth of floral beauty such as could not have been in so limited a space excelled anywhere. Certainly not the most able gardener in the kingdom could have done better. Hardy annuals especially were wondrously effective, and there was ample material for a long succession of bloom. The entire garden was as neat as it was beautiful. The border, which was of Z shape, was some 50 feet long, and there were other portions in addition. A little home made greenhouse nestling close to the cottage showed where the Begonias and other tender plants had been wintered. Away on one side of an open common at Coulsdon I went into a cottage garden of oblong shape enclosed by a neat hedge. Passing up on one side I could but admire the fine crops of diverse vegetables in it, and at the extreme end was a big collection of box bee hives full of active workers. Crossing behind these I found on each side of the other side path a border 2 feet wide, a great portion of which was full of one of the most beautiful selections of dwarf Snapdragons, of Sutton's Superb strain, I have ever seen, backed by taller and lovely-hued Scabious, whilst on the other side were great numbers of Ten-week Stocks in brilliant flower, and numerous other plants. Roses, home worked, were plentiful. It was a surprise as well as a delight. The cottager was an ordinary woodman, but one of exceeding industry and endowed with fine taste.—OBSERVER.

PLANTING SAVOYS.—It is not necessary to plant Savoys before this month. If possible choose a dull period previous to rain. If planting is very dry weather cut a small trench, which fill with water, plant, fill in some soil, and water again.—S.

HORTICULTURAL CLUB.—The informal dinner of the Horticultural Club, when the foreign visitors to the R.H.S. Conference were entertained last week, proved a great success, and the utmost good feeling was expressed by the guests, who greatly appreciated the entertainment. Mr. Harry J. Veitch presided in the absence of Sir John D. T. Llewelyn, Bart., M.P., whose parliamentary duties obliged him to quit early. Messrs. Veitch supplied fine Roses, flowers, and plants for the tables, and Messrs. Bunyard some fifteen varieties of Kent Strawberries which astonished the visitors. Messrs. Rivers sent orchard house Cherries, and Mr. Geo. Monro, Cherries from the open.

PERIPLOCA GRÆCA.—This charming hardy climber is a native of southern Europe and Syria. It is not so much grown now as it used to be, Clematis, Rosea, and Ampelopsis having superseded it. It is, however, well worthy of a place in any garden, more especially for those places where no other climber seems to be able to thrive, as the *Periploca* will grow almost anywhere and in any kind of soil. The opposite leaves are ovate in shape, 4 or 5 inches long, by about 2 inches wide, of a bright, shining green, and glabrous on both surfaces. The flowers are borne in large corymbs, opening in July and August, and are of a brownish colour covered on the inside with short white hairs. The plant is easily propagated by cuttings or layers.—C.

HIBISCUS HETEROPHYLLUS.—This plant furnishes a good example of the beneficial results produced by border culture on plants which have behaved in an altogether unsatisfactory manner in pots. For several years it was grown in the temperate house at Kew as a pot plant, never making more than an ordinary looking plant, and not flowering. In the spring of 1898, however, a specimen 2 feet high was planted in a sunny position in the Mexican house, where it quickly grew out of recognition, making a perfect pyramid, 12 feet high and 6 feet through at the base, in nine months. Early this year growth was checked and the shoots thinned, and it flowered very freely. It is a native of New South Wales, and varies considerably in habit, the leaves of some plants being entire, others deeply lobed, while the flowers also vary greatly in size. The Kew plant has soft pithy growths covered with spines. The leaves are decidedly ornamental, light green, and deeply lobed, the lobes varying from three to five on different leaves. The flowers are about the same size as those of *H. Manihot*—i.e., 6 to 7 inches across—and have the same maroon blotch at the base of the petals, but instead of being primrose yellow, as in that species, they are white, with a longitudinal mark of rose on the outside of each petal. Altogether the flower is most striking and beautiful, its only fault being its short life, as it is only at its best for about eighteen hours.—W. D.

THE CHARTER OF THE ROYAL HORTICULTURAL SOCIETY.—I may reply to your correspondent of last week in reference to the above subject. An esteemed member of the Council informs me that the special object of the general meeting of the Fellows convened for Friday next is to submit to the Privy Council an amended charter to replace the old, cumbrous, and quite out-of-date charter which was granted by her Majesty in council in the twenty-fourth year of her reign, and by virtue of the existence of which the Society's hands are much tied in relation to the more modern and advanced condition of horticulture. It has also been found, on consulting eminent counsel, that the existing bye-laws relating to the election of the fifth portion of the Council annually are not in accordance with the charter, and it was some time since promised that whenever funds for the purpose could be obtained such changes in the charter should be sought for as are so much needed. Obviously there can be little objection to the general tenor of the amended charter, a copy of which I have been privileged to see, because it is general in its nature, and no doubt the Fellows assembled at the meeting will cordially assent to the request to the Privy Council for a new charter being made. The chief interest to the Fellows will centre, should the request of the Society be granted, on the proposed new bye-laws which will have to be formulated, as the granting of a new charter will abrogate all other bye-laws. These bye-laws, it is hoped, the Council will print, and circulate copies of to all the Fellows fully a fortnight before the general meeting called to consider them, and that when amendments seem to be backed by a considerable body of Fellows, if proposed, no stupid stonewallism will be interposed to prevent their acceptance. The Society is, of course, composed of the Fellows, and not of the Council, and the best way to insure its prosperity is to treat the Fellows with the fullest respect and consideration.—A. DEAN.

METHEOLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1899.										
July.										
Sunday .. 9	N.N.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday.. 10	S.S.W.	68.8	62.0	77.9	56.4	—	67.7	63.2	58.1	48.1
Tuesday.. 11	S.S.W.	65.7	61.1	72.9	57.9	0.11	67.8	63.6	58.5	51.5
Wed'sday 12	S.S.E.	71.8	64.6	82.6	59.9	—	67.2	63.7	58.8	56.5
Thursday 13	S.S.E.	74.9	65.8	78.9	64.9	—	69.4	64.2	58.9	57.5
Friday .. 14	W.N.W.	62.8	57.5	73.1	57.7	—	67.4	64.5	59.2	54.8
Friday .. 14	S.S.W.	66.9	58.2	70.5	48.3	—	65.8	64.1	59.5	39.1
Saturday 15	W.S.W.	66.7	56.6	71.7	57.5	—	66.2	63.7	59.7	51.1
MEANS ..		68.2	60.8	75.1	57.5	Total 0.11	67.4	63.9	59.0	51.2

The weather during the week has been very hot, Tuesday, the 11th inst., being one of the hottest days experienced this summer, as only on one occasion has the glass registered a higher temperature, which was on the 5th ult., when it read 82.7° in the shade. A little rain fell on the 10th inst.

— **UTRICULARIA ENDRESII.**—This pretty stove plant is not as often seen as it might be, for without a doubt it is well worth growing, and provided sufficient heat and moisture are forthcoming no great amount of skill is needed in its culture. The habit of the plant is to throw up its leaves and flowers from a slender creeping rhizome, and for this reason broad shallow baskets with a thin compost, a good deal like that used for Orchids, may be allowed. While growing and flowering a large quantity of water is needed, but when at rest much less is required though no greater or more frequent mistake is made than drying the roots severely at this season.—H.

— **CAULIFLOWERS.**—With regard to the Cauliflowers alluded to on page 44, I send you a sample. I regret that it is not a good one, but it is the best I have now, the crop being about done. The largest of these heads have been lifted ten days, and placed in a cool shed. Possibly I, like "A. D.," on page 33, exaggerated a trifle in saying they averaged 6 inches in diameter, but you can decide for yourself. I had several heads both larger and smaller than the sample. They were grown on a south border, and treated in the usual way for Cabbage. I considered the frost of the third week was very severe, over 20° being registered. The plants were very much cut then, but came on rapidly afterwards. I shall certainly try the plan another year again.—R. M. D. [The larger of the two Cauliflowers received was 7 inches in diameter, but measured 9 inches following the contour of the close white head. That it had kept so close for ten days in a cool shed affords evidence of the usefulness of cool storage for retarding for exhibition or otherwise. We have many times tried the plan by which "R. M. D." was so fortunate, and sometimes with a measure of success when the winters were the reverse of severe. Our correspondent is not particularly elucidatory as to the date of his solitary severe frost, which occurred during the "third week."]

— **WHERE OUR FRUITS COME FROM.**—Last week the new Pear season may be said to have opened, as the first arrival of new fresh Pears came to London from Portugal, and were at once bought from the auctioneers who received them. It may be added that at the present time we are receiving Peaches, Plums, and Strawberries from France, also Apricots. Oranges come from Italy, Portugal, and Spain. Many Londoners are astonished at what may be termed the curious-looking new fruits now on show in the windows of the high-class fruiterers. They are of a flatish, oblong shape, and when ripe carry a deep, mellowed apricot colour. These are Mangoes, and they come from the East Indies. Huge vanloads of curiously packed crates may be seen daily passing at a rapid pace through Fleet Street, westwards. Each crate contains a bunch of Bananas, and these come from the Canaries. Never were such large quantities of these dainty, yellow-fingered fruits sent into London before, and it is predicted that in time the best of them will be obtainable as cheaply as four a penny. For every hundredweight eaten in London twenty years ago a ton at least is consumed now. The cheap black Grapes now on show come chiefly from Guernsey and some from Belgium. The really choice Grapes are home grown, and are now in perfection. Fine Apples come from the Azores.—("Westminster Gazette.")

— **SWEET PEAS.**—Sweet Peas are very prolific in flowering, but their period of blooming is soon past if pods are allowed to form. In order to extend the period during which flowers may be picked the cutting should be free, or pods removed before the seed swells.—C. S.

— **SALT AS A WEED KILLER.**—Although there are many excellent weed-destroying preparations on the market, it is a well known fact that salt acts promptly in destroying the growth of weeds on walks. The common or agricultural salt does for the purpose, and it should be spread evenly on the walks in dry hot weather.—E.

— **SEEDLING WALLFLOWERS.**—The transplanting or pricking out of young Wallflowers must now be done if sturdy bushy plants are needed for autumn planting. If placed out, 4 to 6 inches apart, in good soil they will develop into nice plants. They are commonly left too long in the seed beds and their tissues made tender by crowding; then people wonder why the plants die in winter.—B. H.

— **STRAWBERRY FILLBASKET.**—We notice Mr. Pearson's remarks on page 33 last week, and particularly so as to Fillbasket. Now, we and others consider the flavour very good, and as we have not sent this Strawberry out to the trade at present, the stock being small, we do not think he can have this variety. It was only issued retail last year. It is a prodigious cropper, and we consider a grand variety—Royal Sovereign crossed by Latest of All.—LAXTON BROS.

— **PLANT MIMICRY.**—There are a few instances of protective mimicry in plants, though in general plants protect themselves by spines, hairs, and poisonous secretions. The "Stone Mesembryanthemum" of the Cape of Good Hope resembles, says a transatlantic contemporary, the stones among which it grows, and thus escapes the notice of wild herbivorous animals. It has also been observed that many plants growing in the stony soil of the Karoo have their tubers so like the stones around them that when the plant is not in leaf one cannot be distinguished from the other.

— **ADIANTUM CAPILLUS VENERIS FISSUM.**—The finely cut fronds of this variety are very distinct from those of any other kind. Each of the leaflets is cut up into a large number of very narrow divisions, and this gives the plant a very light and pretty effect quite distinct from crested kinds, which are not always beautiful. It is not much known, and one may enter a number of collections without seeing a plant of it, but one occasionally sees it. It is of very easy culture in a rather warmer house than suits the typical form, as if grown in a very cool structure the fronds are apt to damp.—C. H.

— **METHODS OF HEATING.**—The time for considering the question of providing and maintaining desired temperatures in the winter is undoubtedly the summer, but the consideration is often deferred too long. We are reminded of this subject by the following pertinent observations in the latest issued trade list of the Thames Bank Iron Company.

The efficient warming and ventilation of large public buildings and dwelling houses is a subject which is now receiving much more attention than formerly, and no one will dispute the necessity of artificial heating during the winter months. There are a great many 'systems,' some simple and some very complicated, but our experience is that as a rule the most simple is the most efficient, and while admitting that a system of low pressure hot water is not always the most convenient, but that hot air is convenient, we give the preference to hot water." The majority of practical men will, we suspect, agree with the preference indicated, and assuredly the Company provides ample and varied means in the several apparatus illustrated for accomplishing the object in view.

— **"ONE AND ALL" FLOWER SHOW.**—The new schedule has been issued for the "One and All" Flower Show, to be held at the Crystal Palace in August. The schedule this year is in two parts, and contains offers of prizes calculated to stimulate every kind of horticultural excellence amongst working people throughout the kingdom. The prizes, over 1000 in number, include a silver champion cup by Countess Grey; gold, silver, and bronze medals by the Agricultural and Horticultural Society; a silver cup by Miss Wilmott, V.M.H.; an original water-colour drawing by Miss Marie Lowe (Mrs. Hensley); special prizes offered by many Co-operative Societies; £150 by the Crystal Palace Company; and £200 by the Council of the Agricultural and Horticultural Association. The increase in the number and variety of classes is very notable. One new class is a novel departure in the direction of educational judging. The judges are to announce the points of excellence upon which these particular awards will rest, the object being to instruct exhibitors and growers in what is good and what bad in each kind of garden production. Copies of schedules may be obtained free of charge from the Hon. Secretary, Mr. E. O. Greening, 3, Agar Street, Charing Cross, W.C.

THE UPLANDS.

THERE are numerous residential domains round Birmingham noted for their horticultural features, and conspicuous amongst them is "The Uplands," the charming home of T. W. Webley, Esq., of revolver fame. It is situated about three and a half miles from the Town Hall, Birmingham, bordering on the western suburb of Edgbaston at Selly Hill. It is also almost within pistol-shot to the west of Highbury, and at a much closer range of fire to the residence of his brother-in-law, Mr. Charles Winn, also called The Uplands—the two residences closely adjoining each other, and curiously, also, both being noted for their horticultural qualifications, the one (Mr. Webley's) for garden scenery and the other for Orchids, especially *Cypripediums*, of which latter genus Mr. Winn raised several choice hybrids within the last few years.

Reverting from this digression, it must be remarked that The Uplands, as its appellation significantly indicates, comprises chiefly steeply rising ground, surmounted by the commodious domicile, with a south-eastern aspect, the ground readily lending itself to the extensive and elaborate rock garden, and of which the accompanying beautiful photographic illustration (fig. 16) will convey to the reader an idea of its features far beyond the pen and ink sketch could do. The rockery in question was constructed by Messrs. Pulham & Sons about four years ago, and may perhaps be considered the *chef d'œuvre*, according to its size, of the firm's manifold similar creations. The general features of the rock garden were designed by Mr. William Spinks (the locally well-known landscape gardener to Messrs. Hewitt & Co., Solihull), as well as other portions of the grounds, and all of which reflect much credit on his taste and skill. Mr. Webley is a strong believer in "thoroughness," and in the carrying out of the numerous improvements of his delightful and, it may be safely said, altogether unique garden, nothing was spared to effect the purpose.

In attempting to delineate a few of the principal features of the pleasure grounds, we purpose to commence at the base of the principal facade of the house, and from which a partial but interesting view of the surrounding ground and rock garden is obtained. A grassy undulating glade—a portion of which is depicted in the illustration (fig. 16)—commences almost immediately at the site indicated, and is bordered on the lower side by a wide belt of trees and shrubs, effectively screening the abode and grounds from public view. The opposite higher rising side of the glade is furnished with a broad and irregular bordering of choice trees and shrubs, among which there are several both rare and costly. Particularly noticeable are three or four small specimens of the elegant *Cedrus atlantica aurea*, and such as *Cupressus Lawsoniana*, *Westerianum*, *R. tinospora filifera aurea*, *R. filifera pyramidalis*, *Abies concolor violacea*, *A. Sieboldi*, *A. pungens glauca*, and the strikingly effective *Coni. er Cedrus atlantica glauca*, this standing out in bold relief amidst a colony of green and golden *Hollies* and *Yews*. Provision is made along the front portion of the border in the shape of informal spaces for the reception of spring and summer bedding flowers, such as *Narcissi* and *Tulips* for the former purpose, and "Geraniums" for the latter, the colouration of the flowers affording a pleasing relief to the rich and varied greenery of the shrubs at the rear.

Proceeding downwards we arrive at the upper end of the rock and water garden, and from which coign of vantage a perspective view of this and the scenery beyond is obtained, including the not too picturesque wind-water engine, attached to a deep well on the confines of the lower portion of the grounds, for the purpose of forcing a supply of water into a tank at the back of the premises above, from which it gravitates through an underground conduit to the rockery below, while the waste water of the tank is reconducted to the well.

In close proximity to the trio of picturesque old Oaks, represented on the right hand of the photo in question, the streamlet supplying the rockery below issues unostentatiously from a secluded part of the rocky bank beneath, thence flowing placidly onward until it reaches the head of the fall, and passing on leaps from crag to crag till, shrouded by tall-growing aquatic vegetation, it falls into the ornamental pool below. It is almost unnecessary to remark that the sides, nooks, and crannies of the rocky streamlet are clothed with a suitable contingent of sub-shrubby, semi-aquatic plants, disposed with much judgment and taste. Several of the plants are novelties, one being a remarkably dwarf variety of *Pinus strobus*, said to be upwards of forty years old, about 18 inches high, of a spreading habit, and supposed to be the only plant of its kind extant. In a suitable nook two or three shapely plants of *Yucca gloriosa*, amidst other vegetation, proved most effective. In another nook a small colony of *Cypripedium* spectabile attracted notice, as also a flourishing plant of *Cotoneaster horizontalis* climbing the face of a large boulder. In another quiet and sheltered recess was noticed the stately *Arum Lily* (*Richardia thioplica*) throwing up their creamy, vase-shaped inflorescence in profusion, having survived the winter's cold with impunity in their watery bed.

In the illustration only a portion of the lake is shown, including a small portion of the *Rhododendrons* clothing the island in the centre, and which were most effective when in full bloom at the time of our visit, and the shadows of whose pendulous boughs in company with tall Ferns and other suitable vegetation were reflected on still water around. The margin of the lake is fringed with a variety of waterside plants, including large specimens of the elegant *Bamboo*, *Arundinaria Simonsi*, *Spiræas* in variety, large numbers of *Typha latifolia*, *angustifolia*, and

the pretty minims, commonly but erroneously called *Bullrushes* instead of Cat's-tail or Reed-Mace, the *Bullrushes* belonging to the genus *Scirpus*. A collection of *Marillac's* hybrid Water Lilies distributed over the pool are in process of trial with some prospect of success. The water is enlivened by shoals of golden carp and other fish glistening in the sunshine, which leap above its placid surface in pursuit of the unwary flies.

In addition to the rockery already adverted to, the idea occurred to Mr. Webley to extend it, so as to represent a rocky rivulet crossing a valley, and emptying into a deep tree-begirt pond beyond. Another feature in this portion of the grounds are the large beds of *Rhododendrons* near the lake, not planted in the "dotting" system usually seen, but in masses of one variety each of the best sorts extant. The system in question was adopted to a still greater degree, as evidenced by a large bed near by containing nearly 100 plants of *Rhododendron Purity*, and the white flowers of which, en masse, produced a most striking effect, especially in comparison with the dozens of the former mentioned assemblages of varieties. The foregoing instances are objects lessons, and serve to illustrate Mr. Webley's ideal of colour "massing" in vegetation.

Space would not allow of particular mention of the other numerous kinds of trees and shrubs everywhere to be observed about the grounds, though note must be made of the elegant and richly coloured Japanese *Acers*, *Golden Oaks*, *Ghent Azaleas*, *Crimson Thorns*, *Lilacs*, *Cytisus* embellishing the shrubberies around, while trees, such as *Weeping Elms*, *Copper Beeches*, and others growing in suitable positions characterise the taller growing arboreal scenery. Amongst them was noticeable a tall variety of *Beech*, whose peculiar twisted branches and fastigiate habit, if not handsome, is decidedly picturesque. It is said to be the only specimen in Europe.

In the lower portion of the pleasure grounds there is a tennis lawn, with, on the higher ground immediately above, a flower garden with the formal beds disposed over the neatly kept turf; the beds are rendered gay during the spring season with masses of *Narcissi* and *Tulips*, and in summer time by "Geraniums," yellow *Calceolarias*, and *Pentstemons*. Roses of course find a home here, and at the time of our visit the rosery, with its long narrow beds, separated by neatly kept grass paths, promised a "feast of Roses," worthy alone of a second visit. Pillar Roses, too, are highly cherished, as evidenced by an avenue of several of the best kinds, including such as *Paul's Carmine Pillar*, *Crimson Rambler*, *Annie of Gierstein*, *Lord Penzance*, *Brenda*, *Flora McIvor*, *Bradwardine*, *Julia Manweary*, *Amy Robart*, *Catherine Leyton*, and *Lady Penzance*, trained up rustic pillars of *Spruce Fir*, 10 feet high, with their branches shortened back to within about a foot of the main stem; each variety had filled its allotted space, and was teeming with buds on the eve of expanding their beautiful petals.

One end of the avenue is terminated with a rustic oak-bangled arcade in process of being covered by climbing *Roses* and *Clematis montana*, while extending at a right angle with the avenue adverted to is another one of climbing *Roses* trained up pillars of open ironwork connected by linked chairs depending from pillar to pillar, along which the *Rose* branches will eventually meet. Near by, too, was a long and wide bed filled with one of the most charming masses of *Lily of the Valley* the writer ever saw, and the air being redolent with their delicious perfume. In close proximity to the south side of the house is Mrs. Webley's private herbaceous and alpine rock garden. Such, then, is a description, imperfect though it be, of some of the more salient and attractive landscape and floral features of this remarkable and charming suburban retreat, and to be fully appreciated by the visitor would require to be seen at different seasons of the year.

What may be termed ornamental gardening does not, however, monopolise the whole of Mr. Webley's horticultural proclivities, as instanced by the extensive model hardy fruit garden, principally comprising *Apples* and *Pears* to the amount of several hundreds of trees, both dwarf standards and pyramids, planted about four years ago, the collection containing some of the leading varieties extant. The trees are being trained with almost mathematical precision, midsummer "stopping" of the current growth being assiduously recognised. The standards and pyramids are planted in alternate lines—the former 20 feet, and the latter 10 feet apart. Each row consists of one kind of fruit. For instance, *Cox's Orange Pippin*, *King of the Pippins*, *Lane's Prince Albert*, *Lord Suffield* are assigned a row of each. The same remarks apply to *Pears*. It must have been a beautiful picture when the trees were in full bloom. The crop of fruit, however, promised to be very light, owing to the untoward weather at the flowering period. Here, too, was noticed a thriving young nuttree. Neatly kept grass paths separate the lines of trees, and around the base of each tree is a circular bed of *Narcissi*, which having done duty in the flower garden beds are relegated to the orchard in question, and where they afford when in flower an interesting sight, especially in association with the fruit trees when in bloom. It is an arrangement worthy of imitation. What are called bush fruits are also extensively grown, and *Strawberries* in particular, in about a dozen of the leading varieties, the object being to secure the most reliable and suitably adapted for the climate and position.

From the foregoing notes it will be seen that a richness of resources, high culture, with order and neatness, were everywhere apparent, and

reflect much credit on Mr. Walter Fawdry, the diligent and industrious head gardener, and his assistants, the former having been "located"—as the American says—here for nearly twenty years past, the first few years as foreman. It should also have been remarked that vegetables are somewhat extensively grown, and receive a similar amount of good cultivation as the prior mentioned subjects.

There is also a small colony of glass for the cultivation of flowers—chiefly Roses—and for them two houses are devoted, each being about 40 feet long, span-roofed, and efficiently heated by hot water. Pot Roses are extensively grown, while the Tea section are growing in well prepared beds running along each side of the central pathway, with climbing Teas trained under the roofs, the principal kinds being Niphetos, Belle Lyonaise, Madame Watteville, Viscountess Folkestone, Bouquet d'Or, Maréchal Niel, L'Idéal, Isabella Sprunt, Reine Olga de Wurtemberg,

Africa is to keep the roots of the plants as cool as possible and retain the moisture longer than in the ordinary manner.

In concluding the foregoing notes of The Uplands, we have to tender our best thanks to Mr. Webley for so readily granting a view of his interesting and charming garden.—W. GARDINER.

THE CHISWICK CONFERENCE.

NOT the most dissatisfied person living could have complained of the "warmth" of the reception afforded to visitors at the Chiswick Conference, but the warmth was more that of the atmosphere than of human feeling. A German visitor was pleased to say that in Germany they had not seen the sun for three weeks, so dull was the weather, whereas we were sweltering in sunshine. I ventured to say that doubtless this atmo-



FIG. 16.—THE UPLANDS.

Caroline Kuster, Catherine Mermet, Bridesmaid, Souvenir de President Carnot, Madame Cochet, The Bride, Sunset, and Peile des Jardins. Gloxinias and tuberous-rooted Begonias also occupy a considerable position, with numerous other decorative plants too numerous to mention, the whole doing much credit to the assistant who has charge of this department.

Apocryph of the foregoing allusion to Roses, it may be interesting to remark that when on a visit to South Africa some months ago Mr. Webley noticed a novel plan of growing dwarf plants of Tea Roses, and which he has carried out on a small scale at home. It consists of a rectangular bed sunk about 3 feet in depth from the surface of the ground, sufficiently wide for two rows of plants, the sides and ends of the bed or pit being turfed over, and to protect the plants from severe frosts during the winter and late spring frosts stout squared battens or poles are placed across the bed to support a covering of straw woven mats. This being the first season of trial, the results, so far, promised to be satisfactory, as when we saw them on our recent visit the plants were laden with opening buds. The chief object in the adoption of the system in South

Africa was the cause of our native warmth and excitability of temperament, whereat he shook his head and smiled dubiously. I do not think he quite agreed that we were either a warm or excitable people, and certainly there was no excess of human sentiment exhibited at the Conference.

Dr. Masters, in his opening address as Chairman of the Conference, referred to the exceedingly warm reception invariably given to British visitors when they visited continental shows. We, on the other hand, so much lack that piece of human sympathy, that when we are favoured with the company of eminent horticulturists from other countries, we not only to their face refer to them as "foreigners," but give them the same commonplace greeting that we meet out to all and sundry, even on what may be regarded as a great social function, such as the one annual summer gathering at Chiswick may be assumed to be, yet we do not unbend in the least; there is no warmth in our greetings, no special reception, no effort to exhibit joy at meeting friends from far and near. We are so very lymphatic, so very commonplace. It is all a part of our nature I suppose. They may do these things better in France, in Belgium, in Holland, and elsewhere, but we learn nothing.

After all it is our continental friend who is the warm-hearted excitable receptionist.

It may be pleaded that what was so lacking at Chiswick was more than compensated for by the hospitality of the Horticultural Club. All honour to it, and to that of the R.H.S. on the following night at the Hotel Métropole. But there does seem to be more of heart required at the original or primary function. How pleasant would have been a small reception tent on the lawn at Chiswick, to which all visitors, I do not mean members of the Committee, but invited visitors, might have been taken and there introduced to the President and some members of the Council. How nice to have conducted them round the show, such as it was, and the gardens. How pleasant more sociability at the luncheon, and a few very short speeches of hearty greeting. How welcome at the conclusion of the afternoon conference would have been a cup of tea or coffee, and even a band of music which Fellows might be invited to enjoy in company with their wives. There seem to be so many directions in which heartiness and welcome might have been emphasised.

In relation to the actual matter read or spoken at the Conference, without doubt it was of interest only to a limited number, yet very valuable as showing how far hybridisation or cross-breeding had gone, how much further it might go, and probable results, according to the directions taken. The general inference deduced from the observations made was that hitherto hybridisation has been erratic, not conceived or conducted on definite or scientific lines, and carried out very much according to the tastes of individuals, rather than with clearly defined aims. If from out of the Conference it be found possible to so far marshal efforts to make it practical, experimental, and tending in one direction, great good will have resulted.

No doubt many present thought the proceedings dull and dry. That objection must always attach to discussion of scientific research. Doubtless it was true that the discussion tended more in a scientific direction than in a purely horticultural one, but that again could hardly be avoided, when scientists rather than gardeners were speaking. The definition of general principles lacks the interest which naturally attaches to practical detail or work in hybridisation. It would perhaps have had more interest for the gardener had the papers and discussions been restricted to the consideration of hybridisation for purely economic aims or purposes. That would have limited the range of talk, but it would have shown in a remarkable way what hybridisation or cross-breeding has done for horticulture, and would also have helped the gardener to understand how much in flowers, fruits, and vegetables he owes to the labours of those sterling enthusiasts who have done so much to create and to enrich gardening.—A. D.

EXAMINATION IN HORTICULTURE.

IN your article on the recent examination of the R.H.S. I notice that you mention certain towns as the only places where systematic instruction in horticulture appears to be given. I presume you judge from the addresses given by the candidates on their entry forms. May I point out that for several years past a class in practical horticulture has been held in the Municipal Technical School, Leicester? Last year we sent in six candidates, all of whom passed. This year we had eight candidates, and again all were successful.—J. LANSDELL.

[Mr. Lansdell is slightly in error. We made no such statement as above alleged, but a correspondent remarked on page 527, June 29th, that no technical schools other than those mentioned by him were specified in the official list of successful students as issued by the Royal Horticultural Society, and we think he was correct. The college and school candidates who passed appear to stand in the following order:—Swanley, 32; Chelmsford, 20; Holmes Chapel, 11; Stafford, 9; Leicester, 8; these in the aggregate being exactly half of the total passes—160.

The Leicester candidates must have been well taught and selected for the trying ordeal. Mr. Lansdell does not state the number of lessons they had. Another successful teacher informs us that his students had forty as a minimum, and complains that three of the questions in the "elementary" division were on hybridisation—a subject which specialists from various countries have been invited to discuss in London conferences; and he further fails to see the use of a gardener storing his memory with the natural orders to which the thousands of trees and plants belong, and thus diverting his attention from subjects of, to him, far more substantial importance.

That is matter of opinion, and the question is open to legitimate discussion; but the ability and integrity of the examiners are not. Our attention has been called to a sentence on the page above cited to the effect that semi-scientific questions may be favoured in awarding marks. We interpreted this as meaning, in the opinion of the writer, that such questions themselves (not the awards for answers) were favoured by the R.H.S. for testing the knowledge of candidates. While this opinion is held by our correspondent "Practical," and others of our most successful gardeners, he further states that he intended to say, and thought he did say, that scientifically or botanically trained students in colleges and schools would themselves be likely to favour those over practical questions for obtaining marks.

This may or may not be so. The publication of the marks in each division would settle the point. It is possible, for instance, for a student, to obtain say 150 marks in the scientific, but only fifty in the practical division, total 200, entitling to the "first class," while another might obtain 150 marks for practical and forty-nine for scientific knowledge thus placing him in the "second class" list.

The question now arises, Which would be likely to prove the more

useful, serviceable, profitable, gardener or cultivator—the student with 150 marks for practical knowledge, or the one with only fifty? As a teacher of botany—physiological, structural, and taxological—there is no question as to which would be the more competent. The publication of the marks in the respective divisions would more fully represent the precise qualifications of candidates than is revealed in the present aggregated list.]

THE ROYAL GARDENERS' ORPHAN FUND.

THE Whitehall rooms of the Hotel Métropole were on Tuesday evening last the venue of the Royal Gardeners' Orphan Fund, as they have been for several years past.

With Sir Reginald Hanson, Bart., M.P., in the chair, the "City" had additional inducement to attend, and a number of prominent members of the great City companies were present, including Lieutenant-Colonel Probyn, Sheriff of London. Of the leading horticultural lights there were, in addition to Mr. N. N. Sherwood, the Treasurer of the Fund, Mr. Harry J. Veitch, one of its chief pillars, Messrs. Jas. H. Veitch, W. Marshall, Geo. Monro, Alex. J. Monro, F. W. Moore, J. A. Laing, J. Asbee, J. W. Barr, H. J. Jones, J. Smith, H. Russell, M. Gleeson, R. Dean, Geo. Reynolds, W. Howe, A. F. Barron, H. James, J. Ingamells, and the Secretary, Mr. B. Wynne.

Dinner commenced at seven o'clock, and as Sir Reginald was due at the "House," being unpaired, the loyal toasts were proposed with brevity, and carried with celerity, although not the less loyally.

In giving the toast of the evening, "The Royal Gardeners' Orphan Fund," the Chairman spoke of the duty that devolved upon all who loved gardens and gardening to succour those brother workers who fell by the way, and who, less fortunate than themselves, had need of their assistance. It was only twelve years ago that the Fund was started, and he wished heartily that he could believe that there had been no need for it prior to that date. One thing was certain, however, and that was that the number of orphans that were receiving benefit did not represent all that were in need and deserving of help. In all callings some were sure to be unfortunate, and having regard to the smallness of the gardener's wage, there were doubtless many parents who were not able to provide for the orphans they left behind them. Sir Reginald complimented the executive upon having been wise enough not to build the regulation orphans' asylum, and advised them to adhere to that policy. Speaking, further, of the way in which the affairs of the Fund were conducted, he said that he was pleased to find all the accounts in such an eminently satisfactory condition, and he appealed for further help, both in the way of subscriptions and donations, so that the good work might be extended. He reminded his audience that it was the duty of every man to remember the children as well as the old people, for charity should be two-handed, and the claims of both young and old should have reasonable and proper attention.

Mr. Marshall, with whose name the toast was associated, responded. He was glad, he said, to be able to endorse what had been said as to the satisfactory condition and management of the Society. He had not heard a cross word from anybody of late as to what had been done, and he argued from that that everybody was satisfied. Allusion was made to the claims which orphans had upon the Fund after they reached the age of fourteen, when they ceased to draw their pension. The Committee had received many appeals for help to apprentice such young people, and these appeals had been answered with only a single exception. He foresaw, however, a time when this practice would cause a serious drain upon the Fund, and it could only be met by an increased subscription and donation list.

Mr. Marshall then proceeded to formally present to Mr. Barron the illuminated address, which it was decided at the last annual meeting should be given him. Mr. Barron was so moved that his reply was quite inaudible, but his presence was eloquent enough.

Mr. Arnold Moss was deputed to propose "Gardeners and Gardening," which will have a familiar sound to readers of our Journal, whose motto is "For Gardening and Gardeners." Mr. Moss spoke of the garden that he loved, and repeated Dean Hole's expression of opinion as to what a garden should be.

The Rev. S. B. Mayall replied at some length. Gifted with a sonorous voice and a fine delivery, the reverend gentleman proved a worthy disciple of Dean Hole, and held the attention of his audience whilst he described the refining, purifying, and ennobling influences of gardening, and the triumphant progress of the gardening movement.

The amounts of the evening subscriptions were then read over by Mr. Wynne, and there was very general satisfaction when it was found that a sum of £390 3s. 6d. had been promised, the Chairman's list alone accounting for £398 2s. 6d.

Mr. N. N. Sherwood gave the health of the Chairman, who although a busy man had yet found time to come among them that evening in the cause of charity. Sir Reginald in replying again referred to the importance of subscriptions, which he described as the backbone of all such institutions, for they were like a settled income to a private individual. The sentiments, which were evidently those of the keen business man, were much appreciated, but there was a big round of applause when Sir Reginald invited Mr. Sherwood to put him down for an annual subscription of two guineas.

The toast list was varied by vocal and instrumental music, and humorous sketches by well-known artists, and the evening as a whole was much enjoyed by all.

NOTES FROM DUBLIN.

THE WEATHER.

METEOROLOGICAL conditions are seemingly strange, for ever welcome July has brought a thunderstorm that wakened our farmers to the ever-present danger of that unwelcome visitor, blight. Then we had those fine drizzling, but drenching, showers, combined with a prevailing warmth, producing anything but favourable weather, whilst gardeners in and around the city are bemoaning the lack of sultry days. A brief spell of dryness would enable the plants to dower their plots with ample blossoms, wherewith to fascinate the on-looker and perfume the air.

ROYAL HORTICULTURAL SOCIETY.

The Council members of the above Society held their usual monthly meeting on Tuesday, July 11th, at their offices, 61, Dawson Street, in the afternoon. The meeting was meagre, due to a very unpleasant day. Hamilton Drummond, Esq., J.P., was in the chair. The following members of the Council were present—Captain Riall, D.L., Edmund D'Olier, Esq., J. Hume Dudgeon, Esq., and W. J. Mitchison, Esq. After the minutes of the last meeting were read and duly signed, the expense of the summer Rose show, which amounted to £125, including prizes, was before them for settlement. After a short discussion it was decided to hold the autumn show on Tuesday, August 22nd, instead of the pre-arranged date, the 25th. The Judges for the ensuing show were nominated, which brought to a close the business of the Society.

FLOWER SHOW.

A very pleasing feature in connection with the brewery of world-wide fame, Guinness & Co., is an annual show for their employes, this being the fifth; its success is in a great measure due to the liberality of Lord Iveagh. The respective groups of plants and flowers that were staged on a raised dais at the end of the workmen's rooms formed an effective exhibit, apart from the added charm its many-hued blossoms lent to the sombre surroundings. In order to encourage the staff to better work in the future, the following gentlemen give special money prizes: Messrs. Hopkins, J. Greene, Montgomery and H. G. Ward. The band of St. James's Gate, under the leadership of Mr. J. Whelan, discoursed an interesting variety of selections, in one of the open spaces adjoining the rooms. The list of entries shows a substantial increase, sixty-three new members have joined the ranks of the exhibitors. The entries totalled 171, which is rather roughly subdivided into fifteen classes. Mr. William Dick (Phoenix-park, Dublin) kindly judged. Unfortunately, we are unable to give the prize list as our space is limited.—A. O. N.

GROWING PINES.

As houses become vacant cleanse them thoroughly before being re-occupied with plants. The first thing to be seen to is the bed. If bottom heat be afforded by hot-water pipes, the materials forming the bed, whether of tan or leaves, should be removed at least once a year, or woodlice and other predatory pests rapidly increase, and are harboured by the old material. Syringe every part of the house with hot-water, thoroughly cleansing the wood and ironwork with soap and water, using a brush, and keeping the soapy water from the glass, which must be cleaned inside and outside with water only. Scald all brickwork, and brush with hot limewash, reaching into the holes and crevices. Paint the wood and ironwork, and make the roof as watertight as possible, as much damage is done by water dripping on the foliage.

Chambered beds heated with hot-water pipes are much in advance of those surrounded or passing through beds of rubble. Those composed of the latter should be turned over, and any dirt or small parts removed to allow the heat given off to penetrate through the whole uniformly to the bed. Fresh tan ought to be provided in other cases. If wet, turn it occasionally on fine days. With hot-water pipes beneath about 3 feet depth is ample, more will be needed where such aid is not provided. In most cases it will only be necessary to mix new tan with the least reduced portion of the old, this being sifted and the fine rejected.

Suckers started in June will soon fill their pots with roots, and must be placed into the fruiting pots before the roots become closely matted together. Queens, Envoies, and moderate-growing varieties generally succeed well in 9 or 10-inch pots; those of stronger growth should have 11-inch. Water immediately after potting if the soil be dry, not otherwise, and plunge in a bottom heat of 90° to 95°. Crowding young plants is a great mistake, as they become drawn and weakly instead of forming a sturdy growth, a condition that should always be aimed at.

Attend to the bottom heat of beds that have recently been disturbed by renewal and replacing of plants, not allowing the heat at the base of the pots to exceed 95° without immediately raising them, as too much bottom heat will disastrously affect plants having the pots filled with roots or those with fruit. Examine the plants for water about twice a week, supplying it to those only in need, then thoroughly, and always with a little nourishing food, such as guano, 1 lb. to 20 gallons of water. Maintain a moist, genial, and well-ventilated atmosphere. The weather, or climatic conditions, is usually favourable to progress at this season, so that Pine plants grow luxuriantly; therefore discontinue any shading, such as may have been employed for an hour or two at midday, when the sun was powerful, through the months of May, June, and July, the plants being given all the light possible, admitting air early, especially after dull periods, and plentifully when the temperature ranges from 85° to 95°.

Afford fruiting plants a night temperature of 70° to 75°, 65° to 70° sufficing for successional plants. Some suckers must be reserved on the stools for starting in September; they should not be allowed to become too large, detaching and potting them if necessary.—GROWER.

SHOWS.

WOLVERHAMPTON.—JULY 11TH, 12TH, AND 13TH.

THIS progressive Society is nearly approaching the teens, having held its eleventh annual horticultural show and fête on the above dates, as usual in the beautiful and capacious public West Park, then which there could not, well be a more suitable venue, and this, combined with the typical auspicious weather and an increased prize list, resulted in a record gate receipt, auguring as it does continued success to the Society. A pleasing feature relative to the stimulating influence that the bringing together from all parts of the country the best of horticultural products, was the remarkable increase both in the numbers and improved quality of the exhibits in the amateur and cottagers' classes. An additional factor also to be observed in the continued success of the Society is evidently the unanimity and zeal exercised by the members of the Committee.

GROUPS AND SPECIMEN PLANTS ARRANGED FOR EFFECT.

Commencing with the international classes according to the schedule. The groups of plants arranged for effect were four in number, and occupying the whole central portion of one of the large marquees, were doubtless a marked advance upon any previous occasion, and Mr. Cypher's group proved the *pièce de résistance*, and was the best of the noted firm's decorative efforts ever seen at Wolverhampton. As had been adopted of late years by the firm, four cork-bark bridges extending from the centrepiece to the four corners of the square area constituted the chief feature of the basis. The bridges were draped with a profusion of elegant Orchids and other suitable plants and Ferns, whilst a graceful *Humea elegans* sprang upwards from the centre of each arch. The centrepiece was surmounted by an elegant plant of *Kentia Belmoreana*, while Bamboos and slender *Humeas* with other suitable plants environed the base. The mounds, situated at the sides of the parterre, were topped with a graceful Palm and Bamboo in pairs, whilst in intermediate positions highly coloured and elegant *Crotons*, *Caladiums*, *Ixoras*, *Aralias*, white *Liliums*, Orchids, and Ferns, and with patches of the pretty little *Nertera depressa* with its coral coloured berries served to complete a floral picture of unsurpassable beauty. The second prize was accorded to another notable exhibitor, Mr. W. Vause, for a meritorious composition, and adopting the "Cypherian" bridges elegantly dressed with suitable flowering and other plants, remarkably fine tall *Crotons*, *Humeas*, Palms, and Bamboos were also *en evidence* in this beautiful though comparatively heavy arrangement. The third prize was secured by Mr. J. V. Macdonald, gardener to G. H. Kenrick, Esq., Edgbaston, Birmingham, and who closely ran the last named exhibitor with an artistic arrangement in which were choice Orchids, *Crotons*, the beautiful and graceful *Fuchsia triphylla*, and fine tall and richly coloured specimens of *Acalypha Marseana*. The fourth position was given to Mr. J. E. Knight, Wolverhampton, for a creditable and brightly coloured arrangement.

Once again Mr. J. Cypher demonstrated his skill as a specimen plant exhibitor, with even superior examples to those brought to the front on the last occasion here, more especially with regard to the freshness and colouration. The collection comprised a finely flowered *Bougainvillea Sanderiana*, a richly coloured plant of *B. Cypheri*, *Ixora salicifolia*, *Anthurium Scherzerianum*, *Allamanda Hendersoni*, *Statiea profusa* (very fine), *S. intermedia* (fine), *Erica Irbyana* (fresh and bright), *Allamanda nobilis*, *Croton mortefontaineensis*, *O. Chelsoni*, and four large Palms in variety. The second prize was awarded to Mr. W. Vause, and the third to Mr. W. Finch, Coventry.

For six plants in flower, Mr. J. Cypher was again first with finely bloomed specimens of *Bougainvillea Sanderiana*, *B. glabra*, *Ixora salicifolia*, *Statiea profusa*, *Erica ampullacea Barnesi*, and a fine piece of *Anthurium Scherzerianum*; Mr. Vause, the only other exhibitor, took the second prize. For six Palms, Messrs. Cypher, J. V. Macdonald, and W. Vause were the prizetakers, in the order named, with fine specimens. Orchids were unusually good, and Mr. J. Cypher was to the fore with finely flowered examples of eight kinds, distinct, comprising *Cattleya Gaskelliana*, *C. Sanderiana*, *Odontoglossum Pescatorei*, *Epidendrum vitellinum majus*, *Oncidium macranthum*, *Dendrobium filiforme*, *Epidendrum prismatocarpum*, and *Cattleya gigas*. The second fell to Mr. J. V. Macdonald, with excellent specimens, and the third to Mr. J. P. Mansell, Dudley.

For six fine-foliaged plants the first prize was awarded to Mr. J. Cypher with three Palms and fine examples of *Crotons* Sunset, Flambeau, and elegant *Chelsoni*; Mr. W. Vause was second, and Mr. Lewis Fewkes, gardener to Thomas Clayton, Esq., Castle Bromwich, third. Exotic Ferns were a feature, and for six specimens Mr. J. V. Macdonald claimed first honours, Mr. R. Sharpe, gardener to Henry Lovatt, Esq., the second, and Mr. Lewis Fewkes the third prizes.

ROSES.

Roses were represented by the finest total collection yet exhibited here, over 2000 blooms being staged for competition; the quality generally was remarkably good. There were four exhibits of seventy-two blooms, distinct, and Mr. B. R. Cant, Colchester, again distinguished himself by securing the premier prize. The principal blooms were *Madame Cadeau Ramey*, *Maman Cochet*, *Her Majesty*, *Ellen Drew*, *Mrs. W. J. Grant*, *Mrs. Walker*, *Kaiserin Augusta Victoria*, *Madame de Watteville*, *Duke of Teck*, *Souvenir d'Elise Vardon*, *Muriel Grahame*, *Marie Baumann*, *Innocente Pirola*, and *Souvenir de S. A. Prince*. The second prize was awarded to Messrs. Prior & Son, Colchester, for an excellent exhibit, the third to Messrs. Harkness & Son, Bedale, and the fourth prize to Messrs. A. Dickson & Sons, Newtownards.

The class for forty-eight blooms proved to be an excellent one, and was keenly contested by Messrs. B. R. Cant; J. Townsend & Son, Worcester; Harkness & Son, Prior & Son, and A. Dickson & Sons, the honours being distributed as in order named. In the class for eight distinct varieties, three blooms of each, the prizes were awarded to the first four preceding exhibitors, according to the order named. For five sprays or trusses of distinct varieties with foliage intact, the first prize fell to Mr. J. Mattock, Oxford, and the second to Mr. J. P. Mansell, Dudley, with very elegant examples. For twenty-four varieties Messrs. Townsend and Mattock were the respective winners.

For twelve new varieties of 1896, 1897, and 1898, the first prize and gold medal were won by Mr. B. R. Cant, the second by Messrs. Prior and Son, and the third prize by Messrs. A. Dickson and Sons. For twelve blooms of any dark coloured Rose, Messrs. Townsend & Sons were first with *Horace Vernet*, and Mr. B. R. Cant second with the same variety, and Messrs. Prior & Son third. Keenly contested was the very interesting class for twelve blooms of one light coloured variety, and resulted in Messrs. Alexander Dickson & Sons securing first honours with a stand of the beautiful new variety *Bessie Brown*. The second prize fell to Messrs. Prior & Son with *Innocente Pirola*; the third to Messrs. J. Townsend with *The Bride*; while extra prizes were accorded to Messrs. Harkness and Mr. J. Mattock for *Innocente Pirola*.

An interesting class was that for twelve Tea Roses, distinct, the invincible Mr. B. R. Cant taking the premier position with an excellent coterie, consisting of *The Bride*, *Bridesmaid*, *Comtesse de Nadaillac*, *Ernest Metz*, *Souvenir de S. A. Prince*, *Madame Cusin*, *Souvenir d'un Ami*, *Souvenir d'Elise Vardon*, *Maman Cochet*, *Innocente Pirola*, *Madame de Watteville*, and *Muriel Grahame*. The second and third prizes fell to Messrs. J. Mattock and Messrs. Prior & Son respectively. There were six competitors in the foregoing class. For the most decorative arrangement of Roses the competition was not strong; Mr. J. Mattock was accorded the first prize, and Mr. W. Vause the third prize, the second being withheld.

In the classes open to gentlemen's gardeners and amateurs only for thirty-six varieties of Roses, the Rev. J. H. Pemberton, Havering, Essex, took first honours with a capital stand, the equal prizes falling to Mr. R. Park, Bedale, and Mr. W. Boyes, Derby. For six varieties, the Rev. J. H. Pemberton, Mr. W. Boyes, and Mr. R. Park were placed in the order named. For twelve blooms, Tea Roses, the Rev. J. H. Pemberton was the winner with an excellent exhibit, the second prize falling to Mr. W. Boyes.

CUT FLOWERS AND BOUQUETS.

For twelve bunches, stove and greenhouse flowers, excellent exhibits were contributed by Mr. P. Blair, Trentham Gardens, Mr. Cypher, and Mr. W. Vause, the prizes going as in order named. Bouquets, though not so numerously represented as on some former occasions, were noted for quality. For a hand bouquet Mr. Cypher and Mr. W. Vause were the winners. For a bridal bouquet, Messrs. M. Jenkinson & Son, Newcastle-under-Lyne, took the first prize. The same firm secured the first prize for a bridesmaid's bouquet. It was noticed that Messrs. Perkins & Son, Coventry, did not compete in either of the above classes owing to a recent family affliction.

For an arrangement of hardy border flowers, Mr. W. F. Gunn, Birmingham, Messrs. Wallace & Co., Colchester, and Messrs. Harkness and Son were accorded the prizes in the order named with grand displays. For a display of plants or floral arrangements, space not to exceed 250 square feet, the first prize, the Hawley silver challenge vase value £10, and £5 added, was won by Messrs. Dickson, Ltd., Chester, and the second prize, gold medal, by Mr. J. H. White, Worcester. The first Hawley cup was finally won by Messrs. Dickson last year. Dinner-table decorations were an attractive feature, and for which Messrs. Jenkinson, Mr. W. F. Gunn, and Miss Stevens, Birmingham, were placed in the order named.

Pansies and Violas formed an interesting feature in the show, the principal exhibitors being Messrs. Campbell & Sons, Blantyre; T. Naden, W. Pemberton, G. Wren, W. B. Fowler, and S. Clark. Pinks and Carnations made a pleasing display, and for the former Mr. W. Pemberton, Walsall, was the only exhibitor in the three classes of laced varieties. Carnations were very well shown by Messrs. Thomson & Co., Sparkhill, Birmingham, and Mr. W. Weguelin, Dawlish, also by Mr. W. Pemberton. Sweet Peas were strongly in evidence, and vied with the Roses for admiration. In the arrangement for effect, not less than twenty varieties, Mr. W. F. Gunn secured the gold medal, Messrs. Jones & Sons, Shrewsbury, securing the silver medal, and Mr. J. H. Goodacre, Elvaaston Castle Gardens, the bronze. For eighteen varieties Messrs. Jones & Sons were first, Mr. P. Blair second, and Mr. V. B. Johnstone, The Wergs, Wolverhampton, were the respective winners in a close competition. For twelve varieties Messrs. V. B. Johnstone, P. Round & Co., and G. T. Bates, Hereford, were the winners as in order named.

FRUIT.

Fruit was fairly well shown for the season, but the Muscat of Alexandria Grapes lacked full ripeness, and the Melons were not remarkable for fine flavour. In the class for four bunches of Grapes, distinct varieties, the first prize was accorded to Mr. T. G. Bates, Hereford (gardener, Mr. R. Grindrod) with a bunch each of *Gros Maroc* (fine in berry, bloom, and colour), *Black Morocco*, *Foster's Seedling*, and *Buckland Sweetwater*; the second prize falling to Mr. R. A. Newill, Admaston; and third to Mr. T. Bannerman, gardener to Lord Bagot, Rugeley. For two bunches of white Grapes *H. H. France Hayhurst*, Esq., Wellington, Salop; *John Corbett*, Esq., Impney, Droitwich; and Mr. R. A. Newill, were the respective winners. For two bunches black

Grapes Mr. T. G. Bates; Mr. F. Barnes, Eaton Hall Gardens, Cheshire; and Mr. J. H. Goodacre, won as in the order named.

Strawberries, though not numerously exhibited, were very fair, and the first prize, three dishes from Eaton Hall Gardens, comprising *Gaunt Park*, *Royal Sovereign*, and *Laxton*; *Monarch* was large and well coloured. Peaches and Nectarines were very well shown by Mr. T. Bannerman, Mr. N. F. Barnes, and Mr. J. F. Simpson, gardener to C. T. Mander, Esq., Tettenthall Wood. Nectarines, highly coloured, by Mr. R. Read, gardener to the Earl of Carnarvon, Mr. Barnes, and Mr. Mander. Tomatoes were fairly exhibited by Mr. R. Read and Mr. J. E. Knight.

For a collection of fruit, nine dishes, Mr. J. H. Goodacre was to the fore with *Black Hamburg* and *Cannon Hall Muscat Grapes*, *Elruge Nectarines*, *Figs*, *Peaches*, a fine *Countess Melor*, a small *Queen Pine*, and a dish of *Beauty of Bath Apples*. The second prize went to Mr. T. Bannerman, with *Eastnor Castle Melon*, good *Brown Turkey Figs*, *Black Hamburg* and *Muscat of Alexandria Grapes*, *Royal George Peaches*, *Lord Napier* and *Violette Hative Nectarines*.

AMATEURS' CLASSES.

In the classes open to gentlemen's gardeners and amateurs the competition was keen, the exhibits well maintaining the reputation of the Society's shows; the exigencies of space, however, will not admit of a detailed report of the numerous exhibits, excepting that for six stove and greenhouse plants. Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edghaston; Mr. Lewis Fewkes; and Mr. T. G. Baker, Waterdale, Wolverhampton, showed most creditable specimens, taking the awards as in order named. For six Orchids Mr. J. V. Macdonald was a good first, closely followed by Mr. A. Jenkins, gardener to A. W. Wills, Esq.; and the third prize to Mr. J. Bott, gardener to James Forsyth, Esq., Wolverhampton.

For six exotic Ferns.—First, Mr. Lewis Fewkes; second, Mr. H. Jenkins; third, Mr. T. G. Baker. Six *Caladiums*.—First, Mr. T. G. Baker; second, Mr. R. Sharpe; third, Mr. Lewis Fewkes. Six *Bezonias*.—First, Mr. L. G. Baker; second, Mr. A. Cryer; and third, Mr. R. Sharpe. For a group of plants arranged for effect, not to exceed 350 square feet.—First, Mr. R. Sharpe; second, Mr. H. Cryer; and both displayed much taste in arrangement. For a group not to exceed 200 square feet.—First, Mr. Lewis Fewkes (the only entry). Cut flowers and bouquets were also very well put up in this section of exhibitors; also collections of fruit of high merit by Mr. J. H. Goodacre; Mr. R. Read, gardener to the Earl of Carnarvon, and Mr. F. Barnes, gardener to the Duke of Westminster, securing the prizes in the order named. Vegetables were most creditably shown by the Dowager Lady Hindlip, Mr. R. Read, and Mr. C. T. Mander.

The exhibitors for Messrs. Sutton & Sons' prizes were respectively Lady Theodore Guest, the Earl of Carnarvon, the Dowager Lady Hindlip, H. H. France Hayhurst, Esq., and Mr. C. T. Mander, all with collections of high merit. For Messrs. Webb & Sons' prizes the competitors were Lady T. Guest, the Earl of Carnarvon, and Mr. A. Newill. Here again high merit characterised the collections.

NON-COMPETITIVE EXHIBITS.

Gold medals were awarded to the Earl of Dartmouth for a splendid group of *Carnation Souvenir de la Malmaison* in pots; to Mr. T. Birkenhead, Sale, for a fine collection of Ferns; to Mr. E. Murrell, Shrewsbury, for a splendid collection of Roses; to Messrs. Dobbie, Rothesay, for Sweet Peas and Violas; and to Messrs. Webb & Sons, Wordsley, for a diversified exhibit in which *Gloxinias* (fig. 17) were prominent. Silver medals were secured by Messrs. H. Pattison, Shrewsbury, for Violas and Pansies; Messrs. Thomson & Co., Birmingham, for a fine collection of Carnations; Messrs. Hinton Bros., Warwick, for a collection of Sweet Peas; Mr. H. Deverill, Banbury, for hardy herbaceous flowers; and Messrs. T. B. Dobbs & Co., Wolverhampton, for a group of Ferns. Bronze medals were given to Messrs. Jarman & Co., Chard, for a group of cut Roses; Messrs. Edwards & Sons, Sherwood, for rustic pottery and Ferns; Mr. R. Sydenham, Birmingham, for a collection of Carnations; Mr. R. Lowe, Wolverhampton, for a collection of plants; Mr. G. Barratt, for plants; Mr. T. G. Baker, for Violas; and Mr. J. H. Goodacre, for a collection of *Malmaison Carnations*.

FORMBY.—JULY 12TH.

FORMBY, nestled at the back of the miles of huge sandhills washed up from the river Mersey, has been for many years famed for its Asparagus; but as was truly said at the luncheon, will be as celebrated for its Roses at no distant date. The labour involved in the production of nearly all crops is arduous, the sand having to be excavated some feet deep, and filled in with loam or the best soil procurable, and with substantial protection from the heavy gales coming across the bar; the air is of so pure a nature as to make almost anything grow with moderate vigour and richness of colour seldom seen.

Wednesday last was the annual show, and a capital show, too, judging by the fact that there were some 657 entries. Sir George Pilkington, M.P. for Southport, is the President, Mr. Jno. Formby the Chairman, Mr. Bruce Vice-Chairman, Messrs. Pugh and Bushell Hon. Secretary and Treasurer. All these gentlemen work with a determination to insure success, the large entry and attendance of the public showing it. Only mention of the leading exhibitors can be dealt with.

Roses were of the highest quality, Mr. B. Kennedy winning some five classes in splendid style. Mr. G. W. Rowley was an admirable second in four classes; Messrs. McConnan and Rimmer taking the remaining ones. In plants Messrs. Rockliff, Luther, Watts, A. W. Ardran, D. W. Cangle, W. McConnan, and the Rev. J. B. Richardson all staged with the greatest acceptability.

Fruits of all kinds could not have been surpassed, the bush fruits being of such merit as one seldom finds, whilst vegetables were free from coarseness, clean, and well finished. The principal winners were Messrs. J. Howard, W. Mackarell, E. H. Bushell, J. Norris, J. Aindon, and W. McConnan. Table decorations, excepting the excellent first by Miss C. Rimmer, were not up to the average.

Messrs. Alex. Dickson again staged some twelve dozen magnificent Roses; Mr. C. A. Young, West Derby, choice Carnations; Mr. J. Cowan (Gateacre), a fine group of Orchids; and Mr. H. Middlehurst, seedsman, Liverpool, a fine assortment of Sweet Peas. Two meritorious groups of plants were put up by Messrs. H. Ogden, West Derby, Mr. Aindon, gardener to T. A. Rockliff, Esq.

NORWICH.—JULY 13TH.

THE Rose Show of this Society suffered from the universal craze in East Anglia for Thursdays, many exhibitors being absent at Woodbridge and Brentwood Shows. The site was Catton Park, a charming situation for a Rose show, but rather too far from the city for any society less strongly supported than the Norfolk and Norwich. It is not generally known that this Society is not only one of the strongest and richest, but also among the very oldest in the kingdom. It keeps next October its seventieth birthday—recognises, perhaps, the R.H.S. as a parent, but looks upon the N.R.S. as a contemporary of its grandchildren. The weather was most propitious, being dull in the forenoon, and gracious to the Roses, but fine for the visitors afterwards.

set-up box, and Mr. B. B. Fletcher third. In twelves Mr. Amos Syde was first with a good Maman Cochet; Mr. C. A. Osburne second, showing a good Innocente Pirola; and Mr. T. E. Blofeld third. In a class for twelves, for those not employing a regular gardener, Mr. Hammond, of Eye, was easily first, though handicapped by leaving the tie on one bloom, having Madame de Watteville and Comtesse de Nadaillac really good; Miss W. H. Williams second; and Mr. W. H. Elsum third. In six Roses Mr. Hammond was again first, though once more losing the value of one-sixth of his stand by leaving the tie on a Rose; Mr. J. G. Snell second, and Mr. Cubitt third.

In twelve Teas Mr. Page Roberts was first, having a Muriel Grahame, which seemed to many the best Tea for the medal, and Maman Cochet, Medea, and Ethel Brownlow fine. Mr. Foster-Melliar was second, having Medea and Marie Van Houste pretty good. Mr. A. L. Fellowes was third, showing a good Innocente Pirola. In twelve of one sort, H.P., Mr. A. L. Fellowes was first with a poor stand of La France, barely a good one among them. Mr. Bouchier second with Gabriel Luizet, and Mr. Hammond third with Mrs. Sharman Crawford.

For six H.P.'s of one sort, Mr. Foster-Melliar was easily first with good Mrs. John Laing; Mr. C. A. Fellowes second with Caroline Testout, and Miss Penrice third with bad La France. For twelve Teas of a sort, Mr. A. L. Fellowes was first with a beautiful box of Maman Cochet; Mr. Hammond second with Madame Cusin, small but good; and Mr. Foster-Melliar third with Maman Cochet, large, rough, and irregular. In six Teas of a sort, Mr. A. C. Fellowes had the first prize for the only entry with Maman Cochet. In twelve trebles of Roses (amateurs), Mr.



FIG. 17.—WEBB'S GLOXINIAS AT WOLVERHAMPTON.

For the handsome prize of £8, offered for forty-eight Roses (open), Messrs. D. Prior & Son were a good first, having among their best blooms Comte Raimbaud, A. K. Williams, Victor Hugo, and Dr. Andry. One could hardly doubt that their first choice flowers were being shown for the cup at Woodbridge. Messrs. J. Burrell & Co. were second. Horace Vernet, Maman Cochet, and A. K. Williams were good, but there were a few weak flowers. Rev. A. L. Fellowes was third. There were no exhibits for eighteen trebles. For twelve new Roses, eight varieties, there was only one exhibit by Messrs. D. Prior & Son. In this interesting class Rev. Alan Cheales was rough; but Marjorie, Countess of Caledon, and Robert Duncan were promising. For eighteen Teas (open) Rev. A. Foster-Melliar was first with a fine stand, Innocente Pirola and Ethel Brownlow being probably his best blooms. The Judges thought otherwise, and, as at Ipswich, gave the medal to The Bride in this stand, which had rather lost its beauty of centre. Messrs. J. Burrell & Co. were second, having Maman Cochet (fine), and an interesting, beautiful, but rather small specimen of white Maman Cochet. Messrs. D. Prior & Son were third, showing Cleopatra, which has been weak this year, finely.

In the amateur classes Mr. Foster-Melliar was easily first for thirty-six, among which were sixteen Teas. Innocente Pirola, Comte Raimbaud, Maman Cochet, A. K. Williams, and a perfect but not fully developed specimen of Marie Baumann, which was the medal H.P., were among his best. Rev. A. L. Fellowes was second with smaller flowers, shown in a large box with four rows, with Maman Cochet good. For twenty-four, a challenge cup class open to Norfolk amateurs only, Rev. F. Page Roberts was first with a most even, bright, and clean stand, half of them being Teas; here was a fine young bloom of Bridesmaid. Mr. T. C. Blofeld was second, and Mr. G. E. Bouchier third.

For eighteen, Mr. Page Roberts was again first with a neat and small stand, principally Teas. Mr. C. A. Fellowes was second with a carelessly

Foster-Melliar was a good first, having Merveille de Lyon, Her Majesty, Mrs. John Laing, and Madame Cusin in good form; Mr. A. L. Fellowes second, and Miss Penrice third. There were no entries for garden Roses.

Herbaceous flowers were exhibited magnificently, Mrs. Petre of Westwick Hall defeating Messrs. J. Burrell & Co. in the open class for forty-eight with a nearly perfect display. Messrs. Paul & Son of Cheshunt showed, not for competition, garden Roses, and Mr. Cannell made a wonderful display of some of the new Cannas.—W. R. RAILLEM.

WEYBRIDGE.—JULY 13TH.

THE first annual summer exhibition, under the auspices of the Weybridge Gardeners' Mutual Improvement Society, was held in the grounds of Oatlands Mere, kindly lent by the President of the Society, A. Shannon Stevenson, Esq. For a first attempt the show was a success in every way, and reflects credit on the Executive Committee, which is mainly composed of practical gardeners, so ably led by the Secretary, Mr. C. W. Baynes. The schedule of prizes was a most comprehensive one, containing no less than 104 classes. Space, we regret to say, forbids more than a mention of the leading classes.

The exhibits were arranged in two large tents, which provided ample space for the exhibits as well as for the visitors. The groups of miscellaneous plants arranged for effect, of which there were four, were accommodated down the centre of one tent, making a pleasing display. The groups were limited to 15 feet by 10 feet, and of oval shape. A silver cup valued £5 was offered as the premier award. This coveted honour fell somewhat easily to Mr. James Lock, gardener to C. Swinfen Eady, Esq., Q.O., Oatlands Lodge, Weybridge. Mr. E. Watford, gardener to A. J. Rhodes, Esq., Weybridge, was a good second. There was only one

entry in the class for six specimen flowering stove and greenhouse plants, but this contained capital representations of *Ixora Prince of Orange*, and *Clerodendron Balfourianum*, and to the exhibitor, Mr. Hinka, gardener to E. Bruce, Esq., The Beeches, Walton-on-Thames, was awarded the first prize. To the last named also the premier award for six foliage plants went. A grand specimen of *Anthurium crystallinum* was conspicuous in this collection.

For four stove or greenhouse plants in flower, for a single specimen foliage plant, and for a single flowering plant, Mr. Lock was the premier exhibitor, as was he for four exotic Ferns. Mr. Whitlock, gardener to W. A. Bilney, Esq., won the premier award for four Orchids with grandly flowered examples. *Gloxinias* were finely shown, Mr. W. Stedman securing the leading award for eight plants, with Mr. E. Watford a close second. Mr. Prothero, gardener to Mrs. Green, won for six *Caladiums*. Mr. Lock occupied a similar place for six Zonal "Geraniums," as also did he for six table plants and four pots *Liliums*. Double and single *Begonias* were well represented, Mr. Stedman winning in both classes. Mr. B. Buckmaster, gardener to W. Smith, Esq., staged remarkably well grown and coloured *Coleus* for the leading award, which he secured.

Cut flowers were a strong feature of the show. Sweet Peas were freely staged, as many as eight competing in the class for twelve bunches, distinct. Mr. Whitlock won the leading prize with magnificent flowers not well arranged; Mr. Basil, Woburn Park College, second. Herbaceous flowers were numerous and good. An epergne most tastefully arranged with choice flowers won for Mr. Lock the premier award in that class. Roses were moderate.

Fruit was thoroughly well represented. For a collection of eight dishes Mr. Lock was an easy first prizewinner, staging Black Hamburg Grapes, Al Melon, Lord Napier, and Dryden Nectarines. Mr. Buckmaster second. The last named with Madresfield Court in good condition won for two bunches of black Grapes. Mr. Lock occupied a similar place for white Grapes with Muscat of Alexandria, as well as for single dishes of Peaches, Nectarines, and Strawberries. Vegetables were plentifully shown. Mr. Basil won for a collection of eight varieties with a remarkably even and good lot. Mr. Lock second.

Exhibits not for competition were numerous and good. Messrs. W. Cutbush & Son had a grand group of Malmesbury Carnations; Mr. Will Taylor, Roses; Messrs. Jackman & Sons, herbaceous flowers; Fletcher Bros., Sweet Peas and Roses; and Messrs. J. Peed & Sons, collection of miscellaneous plants.

WOODBIDGE.—JULY 13TH.

THOUGH Woodbridge is comparatively small as a town, it looms large as the home of one of the best horticultural exhibitions in the eastern counties. The show held in the Abbey grounds by Captain Carthew on Thursday last was, generally speaking, quite equal to any of its predecessors, though Roses were not, perhaps, up to the standard, owing probably to Norwich Rose Show being on the same day. The flowers staged, however, were of high quality, while other sections of the show were an advance on previous occasions. Fruits and vegetables were excellent, as were herbaceous flowers, *Gloxinias*, and tuberous-rooted *Begonias*. Under the skilled direction of Mr. John Andrews, the Honorary Secretary, all the arrangements worked smoothly and pleasantly for everyone. As our space is rather limited, detailed notes must be confined to the Roses and the table decorations as being the principal features.

The schedule contains particulars of a score of classes devoted to Roses, of which some were open to all comers while others were subject to the customary restrictions. The chief prize is for twenty-four distinct single trusses, for which a 25-guinea cup is offered for competition. Mr. B. R. Cant of Colchester has been in great form this season, and he maintained his reputation at Woodbridge by winning with a beautiful collection of fresh, brightly coloured blooms of the following two dozen varieties:—Her Majesty, Horace Vernet, Madame de Watteville, Le Havre, Caroline Testout, Duchesse de Morny, Mrs. J. Laing, Marie Baumann, Lady A. Hill, Prince Arthur, Ernest Metz, Madame Crapelet, Maman Cochet, Alfred Colomb, Muriel Grahame, A. K. Williams, Sultan of Zanzibar, Medea, Dr. Andry, Comtesse de Ludre, Madame Victor Verdier, Madame Cusin, Edouard André, and Helen Keller. Messrs. F. Cant & Co., Colchester, were placed equal second with Messrs. D. Prior & Son, Colchester. Messrs. Cant's stand included amongst the most conspicuous examples Mrs. W. J. Grant, Countess of Caledon, Madame Cusin, Charles Lefebvre, Kaiserin Augusta Victoria, Horace Vernet, Marie Baumann, Comtesse de Ludre, Suzanne Marie Rodocanachi, and Ulrich Brunner. Messrs. D. Prior & Son exhibited A. K. Williams, Maman Cochet, Helen Keller, Horace Vernet, Mrs. W. J. Grant, Comtesse de Ludre, and Her Majesty in creditable form.

The premier award for thirty-six distinct single trusses was also secured by Mr. B. R. Cant with a handsome exhibit, comprising A. K. Williams, Her Majesty, Madame Eugène Verdier, Horace Vernet, Duchesse de Morny, Marchioness of Dufferin, Countess of Rosebery, Countess of Caledon, Madame Crapelet, Maman Cochet, Reynolds Hole, E. Y. Teas, Camille Bernardin, Le Havre, Innocente Pirola, Victor Hugo, Mrs. J. Laing, Prince Arthur, Mrs. W. J. Grant, Robert Lebandy, Lady Mary Fitzwilliam, Général Jacqueminot, Caroline Testout, Marie Baumann, Madame de Watteville, Edouard André, Madame Cusin, Comtesse de Ludre, Marchioness of Londonderry, Madame Henri Perriere, Catherine Mermot, Earl Dufferin, Kaiserin Augusta Victoria, Charles Lefebvre, and Souvenir de S. A. Prince. Messrs. F. Cant and Co. were second with a comparatively weak stand. The best varieties

were Madame Cusin, Mrs. J. Laing, Mrs. W. J. Grant, Horace Vernet, Jeanie Dickson, Comtesse de Ludre, Madame Eugène Verdier, Pride of Reigate, Her Majesty, and A. K. Williams. Messrs. D. Prior & Son were third.

In the class for twelve distinct Teas or Noisettes Messrs. F. Cant and Co. went to the front with a chaste and even stand of Maman Cochet, Innocente Pirola, Catherine Mermot, The Bride, Ethel Brownlow, Medea, Madame Cusin (very rich), Ernest Metz, Bridesmaid (fine), Muriel Grahame, Comtesse de Nadaillac, and Marie Van Houtte. Mr. B. R. Cant was second with a box containing Ethel Brownlow, Madame Cusin, Maman Cochet, and Bridesmaid as the best blooms. Messrs. D. Prior & Son were a fair third.

Mr. B. R. Cant re-assumed the leading position in the class for twelve distinct varieties, three trusses of each. The stand was a good one, and contained A. K. Williams, Her Majesty, Prince Arthur, Mrs. J. Laing, Comtesse de Ludre, Duchesse de Morny, Horace Vernet, Madame Cadeau Ramey, Madame Crapelet, Madame Cusin, Fisher Holmes, and Marchioness of Londonderry. Messrs. D. Prior & Son came second with Marchal Niel, Comtesse de Ludre, Marie Baumann, A. K. Williams, Maman Cochet, and Alfred Colomb as the best triplets. Messrs. F. Cant & Co. had to be content with third place. The pick of the stand included Maman Cochet, A. K. Williams, Marchioness of Londonderry, and Horace Vernet.

The principal class, open to all amateurs, was for twenty-four distinct varieties, not more than twelve Teas or Noisettes being permissible. The premier position was secured by the Rev. A. C. Johnson, Chapel St. Mary, whose stand contained one or two specimens that showed decided effects of the sun's power. The varieties included Madame de Watteville, A. K. Williams (silver medal Hybrid Perpetual), Mrs. W. J. Grant, The Bride, Ulrich Brunner, Comtesse de Nadaillac, Her Majesty, Duchess of Bedford, Maman Cochet, Suzanne Marie Rodocanachi, Madame Hoste, Mrs. J. Laing, Horace Vernet, Innocente Pirola, Camille Bernardin, Madame Cusin, Duchesse de Morny, Alfred Colomb, Grand Mogul, Catherine Mermot, and Kaiserin Augusta Victoria. O. G. Orpen, Esq., West Bergholt, Colchester, was placed second. His best examples were of Bridesmaid, Madame Cusin, Mrs. W. J. Grant, Comtesse de Nadaillac, Souvenir d'Elise Vardon, Maman Cochet, Comtesse de Ludre, and Horace Vernet. The Rev. H. A. Berners, Harkstead Rectory, Ipswich, was third.

There were apparently only two exhibitors in the amateurs' class for twelve Teas and Noisettes, distinct, of whom O. G. Orpen, Esq., was a good first. The stand comprised charming examples of Maman Cochet, Muriel Grahame, Madame Cusin, Catherine Mermot, Cleopatra, Madame de Watteville, Ernest Metz, Souvenir d'un Ami, Madame Hoste, Bridesmaid, Comtesse de Nadaillac, and Souvenir d'Elise Vardon. In the Rev. H. A. Berners' stand, which was placed second, were observed Maman Cochet, Comtesse de Nadaillac, and Ethel Brownlow.

Mr. O. G. Orpen again demonstrated his superiority by securing the premier honours for twelve distinct single trusses with creditable examples of Maman Cochet, The Bride, Madame Cusin, Catherine Mermot, Horace Vernet, Princess of Wales, Robert Lebandy, Innocente Pirola, A. K. Williams, Comtesse de Nadaillac, François Dubreuil, and Souvenir d'Elise Vardon. The Rev. A. C. Johnson was a fair second with best blooms of La France, A. K. Williams, and Bridesmaid. The Rev. H. A. Berners' third prize stand contained a beautiful example of Innocente Pirola, which secured the silver medal for the best Tea or Noisette. Mr. O. G. Orpen and the Rev. H. A. Berners were first and second as named for six blooms any H.P., each showing Marchioness of Londonderry. The same order was maintained for six blooms of any T. or N., Maman Cochet being the variety. The Rev. A. C. Johnson was third in the latter class with Madame de Watteville.

In the garden Rose class, open to amateurs, the prizewinners were Mr. O. G. Orpen, the Hon. W. Lowther, Campsey Ashe, and Lady North in the order here given, while in the nurserymen's class Messrs. F. Cant & Co. and B. C. Notcutt, Woodbridge, were first and second respectively. The prizes in the several minor Rose classes were mainly divided amongst the exhibitors already named.

The several classes that are devoted to the decoration of tables and other floral arrangements always form an attractive and popular feature at Woodbridge, and they were charming on the present occasion. In the class for an epergne or stand Mr. Rogers, gardener to Lord Rendlesham, was placed first with a very tasteful stand. The arrangement was light and effective, the base being, as it should be, toned down with a proper proportion of Maidenhair Fern. Orchids and Carnations were blended well, but the fruit was a little too much hidden. Mr. Andrews, gardener to the Hon. W. Lowther, was second with an arrangement in which the fruit base was too conspicuous and out of proportion with the height of the stand.

Then there was a class for the most quaint table decoration. The table from Mrs. Chandler, Great Bealings, was certainly unique, but lacked artistic merit, and was not one such as any decorator would care to copy. It was chiefly composed of moss and *Nasturtium* flowers. Miss G. Carter, Woodbridge, was placed second, the table being dressed with small Ferns in white receptacles. One of the best artistic decorators present at the show suggested for this class "white Water Lilies with Forget-me-nots arranged in plates only," and we can see how unique and at the same time cool this would look in the summer. In each of the classes for a lady's spray of stove flowers, six buttonholes, Orchids allowed in three, and three buttonholes, Orchids allowed, Mrs. O. G. Orpen secured the first prize. The examples all showed the touch of a master hand.

The chief class in this section was for the most tastefully arranged dinner table for six persons, and Mrs. E. P. Baker, Oxford Road, Colchester,

secured the leading award. This exhibit was quite novel, very bright and pretty, being well finished; the flowers used included one variety of *Calochortus* and an *Allium* with greenish yellow flowers. The second position was assigned to Mrs. O. G. Orpen, whose flowers were chiefly *Cypripedium barbatum*, *Odontoglossum crispum*, and *Dendrobium moschatum*, with *Pancreatum* and *Gypsophila*. The *Cypripedium* detracted from the otherwise good effect of this table. A beautiful table of mauve Sweet Peas deserved a better position than it obtained. In this arrangement there was the touch of the artist's hand. The exhibitor was Miss Gilbert, Ipswich.

Then there was a class for a table arranged for four persons, the premier award being a silver cup. Here Miss G. Carter went to the front with an extremely light arrangement of white Sweet Sultans and white Jasmine. A few more fronds of Maidenhair Fern or trails of *Smilax* on the cloth would have greatly improved the effect. The second prize was secured by Miss E. M. Kemp, Woodbridge. The arrangement was very beautiful, and was composed of Rose L'Idéal and *Gypsophila*. The four corner pieces were slightly too large, otherwise the table was excellent in finish. Miss M. Carter was first in the class for an epergne or stand for a side table with a graceful arrangement of blue and white *Aquilegia*. For the best bunch of Roses Miss E. Foster-Melliar, Sproughton Rectory, Ipswich, was first, as also was she in the class for a basket of cut Roses.

Some of the fruit staged was of excellent quality, particularly Currants, Cherries, Strawberries, and Raspberries. A couple of bunches of grandly finished Black Hamburg Grapes also attracted attention. Mr. W. Messenger, gardener to C. H. Berners, Esq., Woolverstone Park, staged splendidly in the class for a collection of dessert fruits, exclusive of Pines. There were superior Grapes, Black Hamburg and Foster's Seedling, Melon Ne Plus Ultra, Nectarine Pineapple, Peach Dymond, Fig Brown Turkey, Cherry Black Tartarian, and Strawberry Waterloo. Mr. Rogers was a strong second with Peach Stirling Castle, Cherry Black Tartarian, and grand Strawberry Gunton Park as his best dishes. Vegetables were of exceptionally good quality, particularly when the season is taken into consideration.

Plants in pots, cut flowers, and groups were also largely shown, but the available space is exhausted. The two principal non-competitive exhibitors were Messrs. W. Cutbush & Son, Highgate, and R. C. Notcutt, Ipswich and Woodbridge. The North London firm sent *Malmesdon* Carnations, Ferns, Bamboos, and Oranges. Mr. Notcutt contributed Roses, herbaceous flowers, a miscellaneous group, with Strawberries Monarch, Latent of All (splendid), Royal Sovereign, Scarlet Queen, British Queen, Jas. Veitch, Gunton Park, and trained Gooseberries.

ULVERSTON.—JULY 14TH.

TODRUSK Park, kindly lent for the occasion by F. J. Crossfield, Esq., was again chosen by the management of the North Lonsdale Rose Society for the annual display of the "Queen of Flowers," and certainly no prettier place could be found. Where could we find such splendid "lithographs" announcing the show, where such time tables and programmes, or where greater enthusiasts than the joint Secretaries, Messrs. F. W. Poole and G. H. Mackereth, or the Chairman, Mr. James Hodgkin, J.P., men with sound business principles, which they know how to put into practice? With everything in such first-class style, no wonder that the Committee (who had to stand the risk of £200, hoped for a fine day, and in this they were favoured, for a more perfect day could not well have been seen, and in consequence, with all business suspended, the park presented a "great" appearance, the tent being filled the whole of the day, whilst the fine military band found many admirers.

If we said that the show was in every respect a very great advance on last season we should not be wide of the mark, and unquestionably the intensely interesting feature of the show was the magnificent exhibit of Roses from the famed firm of Messrs. Alexander Dickson & Sons of Newtownards, who staged in such style as to merit the highest praise from all beholders. Roses old and new figured in profusion, and to have the honour of taking all the first prizes in the open classes, a bronze medal for the best Rose in the show, and the best seedling is a feat that any firm must be proud of, and with such classes as seventy-two distinct; sixteen, three trusses of each; and thirty-six distinct, the honour appeared all the greater. Messrs. Eckford of Wem again showed how charming is the variety in the indispensable Sweet Pea. Messrs. Dicksons, Ltd., Chester, had a capital stand of herbaceous plants, as had also Mr. Shand of Lancaster, the *Violas* from Mr. Septimus Pye of Garstang being displayed to great advantage, and Messrs. Edwards of Nottingham a large assortment of their "Edwardian" ware.

In the class for seventy-two, distinct, the blooms were of high quality, and Messrs. Alex. Dickson & Sons carried the honours easily. The varieties were Horace Vernet (grand), Lady Moya Beaucherc, Star of Waltham, Mrs. Conway Jones (grand seedling), Gustave Piganeau, Comtesse de Nadaillac, Ulster, Bessie Brown, Duchesse de Morny, Duchess of Portland (special), Fl. rence Pemberton (handsome seedling), Chas. Lefebvre, Souvenir d'un Ami, Marquise de Castellane, Souvenir de S. A. Prince, Duchess of Bedford, Daisy, Marquise Litta, Madame Hausmann, Kaiserin Augusta Victoria, Dupuy Jamain, Francisca Kruger, Victor Hugo, Countess of Caledon, Ulrich Brunner, Caroline Testout, Marie Baumann, Camille Bernardin, Mrs. John Laing, Marchioness Dufferin, La France, Marchioness of Londonderry, A. K. Williams, Lady Clanmorris (seedling), Devienne Lamy, Mildred Grant (seedling), Alfred Colomb, Comtesse Panisse, Madame Delville, Beauty of Waltham, Mrs.

W. J. Grant, Capt. Hayward, Jeanie Dickson, Albert Patel, Mrs. Geo. Dickson, Margaret Dickson, Caroline Kuster, Thos. Mills, He'en Keller, François Courtin, Alice Grahame (seedling), Comtesse d'Oxford, François Louvat, Mrs. S. Crawford, Muriel Grahame, Comte Raimbaud, Ernest Metz, Madame I. Pereira, Maman Cochet, Marie Rady, Jeannette Scott (seedling, fine), Duke of Teck, Lady A. Hill, Medes, Duke of Wellington, Miss E. Brownlow, Louis Van Houtte, Duchess of Albany, Exposition de Brie, and a seedling. Messrs. D. & W. Croll, Dundee, were a fair second with many fine blooms.

For sixteen distinct, three trusses of each, Messrs. Dickson & Sons had flowers of great beauty. Ulster, Ulrich Brunner, Bessie Brown, Duchess of Portland (new), Gustave Piganeau, Mrs. Conway Jones, Horace Vernet (grand), Caroline Testout, Alfred Colomb, Comtesse de Nadaillac, Jeanie Dickson, Lady Moya Beaucherc, Louis Van Houtte, Maman Cochet, Helen Keller, and Mrs. Edward Mawley were represented. Messrs. D. & W. Croll, Dundee, were a moderate second. Messrs. Pearson & Sons, Chilwell, Notts, third. Again to the front came the Irish firm for thirty-six distinct, the flowers being bold and vigorous; Messrs. Croll second, and Messrs. Pearson third.

For six dark, six light, and six Teas the same order prevailed. Also in the class for twelve Teas. For twelve light Roses the success of the season, Bessie Brown, staged in great form by Messrs. Dickson, was to the fore; Messrs. Pearson second with Caroline Testout. A. K. Williams and Captain Hayward were the varieties shown by Messrs. Dickson and Sons and Messrs. Croll for twelve dark Roses.

In the amateur section the competition was very good, H. V. Machin, Esq., winning with eighteen distinct from three other competitors, the flowers being bright and well formed. J. H. Midgley, Esq., Grange-over-Sands, was a good second, and the Rev. R. T. Langtree third. In almost every other class the popular "Workshop Squire" took the lead, Mrs. Marsden, Rev. R. T. Langtree, and Mr. Midgley following closely, the latter winning for nine Teas. Mr. Machin won a bronze medal for twelve blooms of A. K. Williams, Rev. R. T. Langtree being successful, winning for best light bloom with Marchioness of Londonderry, best Tea with Maman Cochet, and the "Myles Woodburne" trophy for the best amateur bloom with the latter, in all the trophy and three bronze medals—a feat that was highly popular amongst the rev. gentleman's friends. The "gold cup," value 15 guineas, and silver medal was won by Mrs. Marsden, of Silverdale, and the remaining silver medal by Mr. J. H. Midgley.

NEW BRIGHTON.—JULY 15TH.

ONE has almost lost count of the number of times that the beautiful garden attached to the residence of Dr. Bell has been thrown open for the cause of charity, and each succeeding year seems to bring about a larger attendance, and so the work of mercy at the Wallasey Cottage Hospital is greatly extended. No better way to spend a delightful afternoon could well be found, for to be added to the many other attractions there were the delightful flowers. The Irish Roses were strong as ever, and were "eye openers" to the many visitors, the new Roses especially so. The worthy Dr. Bell, with characteristic modesty, refrained from cutting many out of his garden, preferring to let them be seen growing naturally at home. The success of Saturday last must have been assured, and the best thanks of all must be accorded the doctor, his daughter, and to Mr. T. R. Bulley, and Mr. T. B. Hall for their efforts to make all such a great success.

For forty-eight distinct Messrs. Alex. Dickson & Sons' flowers were perfect. Mrs. W. J. Grant, La France, Chas. Lefebvre, Helen Keller, Ulrich Brunner, Duchess of Portland (grand), Jeanie Dickson, Captain Christy, Gustave Piganeau, Her Majesty, H. Schultheis, Mildred Grant (extra), A. K. Williams, M. Niel, Alfred Colomb, Caroline Testout, Alice Grahame (superb), Marquise Litta, Bessie Brown, Duchesse de Morny, Clio, J. S. Mill, Marchioness of Downshire, Comtesse d'Oxford, Maman Cochet, Duke of Teck, Mrs. Conway Jones (wonderful), Chas. Darwin, Marchioness of Londonderry, Pierre Notting, Kaiserin Augusta Victoria, Ulster (superb), Comtesse de Nadaillac, Dupuy Jamain, Duchess of Westminster, Duc de Rohan, Alice Lindsell, Marie Baumann, G. H. Mackereth (brilliant colour), Marchioness of Dufferin, Souvenir d'un Ami, Général Jacqueminot, Florence Pemberton (superb), Mrs. Jowitt, Mrs. Ed. Mawley, Madame Gabriel Luizet, and Strangford (new, distinct, and fine) were represented.

In the class for twenty-four trebles and twelve Teas, distinct, the Irish firm retained the lead. The latter stand contained Maman Cochet, Mrs. Mawley, Comtesse de Nadaillac, Madame Cuzin, Innocente Pirola, and Ethel Brownlow as the best. Messrs. Dicksons, Ltd., Chester, were second in this and many other classes.

Amateurs were in remarkable form, and surely no one ever saw a finer twenty-four staged than those by the Rev. J. H. Pemberton of Havering, Essex. For colour, contour, and freshness they were quite delightful. A few of the best were Prince Arthur, Mrs. J. Laing, Le Havre, Horace Vernet, Charles Lefebvre, Victor Hugo, and Caroline Testout. Mr. E. B. Lindsell was also extra good, and Mr. Boyes was a close third. For twelve and six honours went much in the same way, that stamp of good culture being most noticeable. Mr. Pemberton won for six A. K. Williams, also six Teas, Mr. Boyes following. The local classes were excellent, Messrs. Hugh Roberts, W. Bell, and H. J. Mead taking rank.

Mr. T. R. Bulley, so well known as an enthusiast in herbaceous plants, won with a fine twenty-four, Messrs. Bell and Mead following. Garden Roses came from Dicksons, Ltd., Chester, and with the grand

Carnations from Mr. C. A. Young, of West Derby, who is one of the leading specialists of the day, the visitors were not slow to see the many good points they contained.

THE YOUNG GARDENERS' DOMAIN.

DELPHINIUMS.

THERE are among the most beautiful of perennial border plants, and at the present time enrich our gardens by a wealth of tall spikes of various shades of single and double blue flowers. The situation best suited for Delphiniums is in the foreground of shrubby borders, which affords them shelter from strong winds. Although they will grow in any kind of soil, a deep, light loam is preferred, as in that they do not suffer by want of sufficient moisture, and can send their roots deeply for the food they require.

If extra large specimens are desired, it is a good plan to dig a hole for each plant and work in at the bottom some decayed manure by mixing it up with a fork, when, after filling in again, the plants may be inserted. The best time to do this is in the spring, just as the crows begin to start, at which period they may be out through with a spade or lifted and divided, when, if planted in positions prepared in the way mentioned, they will soon make large clumps and produce a magnificent effect.

Delphiniums also come readily from seed, which most of the single types produce freely; and this may be sown as soon as it is ripe, or in the spring, at whichever period may be the most convenient. I should give preference to the first-named, as plants raised during the summer will flower the following year. In this case the seed may be sown early next month under a hand-light, in light sandy soil. But if left until March a little heat is necessary to insure germination.—F. W. G.

HERBACEOUS CALCEOLARIAS.

THE Calceolaria furnishes us with a brilliant display of bloom at a time when the conservatory, in my opinion, most needs it. This section is very popular and easily grown, yet to have good plants satisfactory in every way the cultivator must have two maxims always at his fingers' ends—viz., keep the plants cool and keep them clean. If he follows these rules, and the plants are properly watered and nourished at the roots, success will follow.

The best method of culture I have found to be the following: If two successions of plants are to be grown, the seeds for the first should be sown about the middle of June, the later sowing the third week in July. Sow in pans of light sandy soil previously watered, very lightly covering the seeds with silver sand and fine soil. Keep close and shaded until the seedlings appear, when more air and light must be given them. As soon as they are large enough prick them out into boxes 2 inches apart, using similar soil to that used for the pans, again placing them in a cool, moist, and shady position until they have recovered and are growing freely. When they are ready for 3-inch pots use a compost a little heavier than that used for the seedling boxes.

It is a bone of contention with many gardeners whether they need shading or not after this stage, but I think it depends largely on the house or frame in which they are grown and the aspect. We arrange ours on a bed of moist ashes in an old-fashioned pit, the sashes and bars of which are so numerous and close together as to render shading unnecessary. The young plants are lightly syringed with rain water twice daily in bright weather, and the ashes and stages kept moist. If it is seen that the plants flag during bright sunshine, and have not the deep fresh green characteristic of healthy plants, then shade lightly. Whatever is used for this purpose, however, should be movable, as they must have plenty of light.

Water carefully at first, and always try to keep the roots moderately moist. Give abundance of air when the young plants are growing freely, but care must be taken to avoid draughts. Examine them frequently, and should green fly attack them, either dip in an insecticide or fumigate at once. Repot them as they require it, never allowing them to get root-bound and starved; this is unavoidably in some cases the cause of failure.

The earliest plants should be in the flowering pots not later than the first week in October, so that they will become fairly established ere the dull short days arrive. The soil for the final potting should be one-half light loam, the remainder good leaf soil and old Mushroom bed refuse, only enough sand being added to keep the whole porous. Avoid a close stagnant atmosphere at all times, in the winter especially, watering with great care, and remove decaying leaves as often as possible.

A cool house from which frost is excluded will be best during the winter, as they can have better attention and more light and air than would be the case if they were in cold frames. Fumigate the plants whenever green fly attacks them, as success largely depends on their being clean and healthy. The later plants can winter in 5-inch pots and be potted finally in January. Some will require pinching once during their growth, others will grow into good specimens naturally. My experience shows them to be gross feeders; liquid manure and artificial applied judiciously promote vigorous growth, enabling them to resist, to a large extent, their worst enemy—i.e., green fly. Feeding should commence as soon as the roots are well round the sides of the flowering pots. Subsequent treatment will consist in keeping the plants free from insect pests and removing dead or decaying leaves. Keep them near the glass, and never employ fire heat except to keep out frost. As the flower stems grow support them with thin light stakes, which should be hidden by the foliage as much as possible. A fine effect can be produced by grouping or banking them in the conservatory and edging with Ferns and grasses.—NIL DESPERANDUM.



HARDY FRUIT GARDEN.

Shortening Young Shoots of Fruit Trees.—Wall fruit trees, principally Apples and Pears, trained bushes and pyramids of these fruits in the open, must continue to be subjected to the necessary pruning for reducing the length of the summer growths. When fruit trees are trained in a particular form the number of the main branches is limited, or should be, to just sufficient for defining the outline. This is carried out gradually in the early stages of growth, and continued year by year until the tree is large enough, or has filled the space allotted to it for the extension of main branches.

From the second year of the existence of a main branch and its leading extensions side shoots are thrown out, and these, except under the most favourable conditions, extend longer than is desirable. It is the custom, therefore, at this season to summer-prune or stop rampant shoots of this character, in order that the vigour which is wasting in long growth may be concentrated on the leaves at the base, for supplying the greatest amount of nutrient matter for potential fruit buds.

Some fruit trees show an equalised balance of wood growth and root action, hence the production of long summer shoots does not take place, but instead short stubby growth, with a plump central bud, develops. Such trees require no pruning, except perhaps in the way of thinning-out. Others may produce both kinds of growths. The long growths ought, therefore, to be shortened back to four good leaves, or removed entirely. If there is still space to fill, train-in the leading shoot without shortening. Strong shoots, which start from the old wood in any part of the tree, should be closely cut out unless it is necessary to fill space.

Laying in Young Growth of Fruit Trees.—Many wall fruit trees, not including Apples and Pears, bear the most freely and profitably on young wood. This may be produced one year, and bear fruit the next. This is the case with Apricots, Peaches, Nectarines, and Morello Cherries, but, as a rule, with Plums and Sweet Cherries the current year's shoots require more than one season to produce fruit buds. When laying in wood for bearing one thing must be guarded against, and that is crowding. Morello Cherries may have the shoots more thickly placed than other stone fruits, but after all there is little lost by having the shoots thinly placed so that they may be thoroughly well ripened. Better crops result from a limited number of well-managed growths than from a crowd of superfluous shoots and leaves.

Lay in Morello Cherry shoots 3 or 4 inches apart, and Peach and Nectarine shoots 6 inches. Plum and Sweet Cherry growths are invariably long and comparatively strong, hence should be allowed more room. Regular attention must be paid to young trees in the course of formation. The leading growths must have no obstructions to direct extension.

Currants.—The summer stopping of Red and White Currants ought now to be completed. Shorten to three pairs of leaves. The stopping will improve the bushes in appearance, as the points of shoots are frequently infested with fly, or in some cases disfigured by blistered foliage. The pruning removes this, and admits light and air to the fruits. Black Currants are best pruned after the crop has been gathered. A good selection of strong growths should be retained for future bearing, cutting out a proportion of the older wood, especially any exhausted by bearing. A copious watering will tend to ripen the crop where that is not accomplished, and a mulching of rich manure is beneficial.

Ripening Peaches and Nectarines.—Fruit does not ripen properly unless a due amount of moisture is available for the roots. This should be accorded by copious supplies of water and an application of liquid manure, followed by a mulching. Admit sun to the fruit by drawing aside such leaves as would shade it. Superfluous wood ought to be removed, this relief being of assistance in the ripening of the fruit. Protect with hexagon netting where birds are liable to attack the crop.

Watering and Feeding Fruit Trees.—In order to assist fruit trees in supporting and nourishing a good crop, it is very important that the trees do not suffer from insufficiency of water. An adequate amount of moisture in the soil is desirable before applying special food in the form of artificial stimulants, or even liquid manure. Soil that is dry and hard on the surface must be lightly forked over, without disturbing the roots. A liberal mulching of manure may be spread over the roots, as it serves to retain the water when applied until it gradually percolates into the ground. When the soil has thus been moistened fertilisers may with advantage be given; 4 ozs. to the square yard of a general artificial manure may be distributed and well watered in. When liquid manure is readily obtainable a liberal supply should be afforded after a copious watering. Trees bearing heavy crops, and those with light crops, but making poor growth of wood, are benefited the most.

FRUIT FORCING.

Cherry House.—The trees have now plumped the buds, and the leaves are not capable of much further effort in elaborating the sap, and storing it in the buds and adjacent wood, therefore any undue excitement will cause the trees to restart into growth. This must be guarded against.

by exposing the trees to the influence of the atmosphere, so far as the house will admit. As the best means of arresting premature growth, to which the Cherry is liable when forced year after year successively, the roof-lights must be removed, trees in pots should be placed outdoors, plunging the pots in ashes. If the roof-lights are fixed, ventilate to the fullest extent. The borders must not be allowed to become dry, but have copious supplies of water, and if the trees are weak liquid manure. To subdue red spider, give an occasional washing with the syringe or garden engine. Promptly subdue black aphides with tobacco water. Trees in pots must be regularly syringed and watered to preserve the foliage in a healthy condition.

Cucumbers.—Pot the seedlings for autumn fruiting as they require it, placing a stick to each plant intended for trelliswork, and pinching out the fruit of such as are required for growing in frames or pits at the second rough leaf. Prepare fermenting materials to afford bottom heat for the latter, and cleanse houses thoroughly, the woodwork with hot water, soap, and a brush, the glass with clear water, and limewash the walls. Remove all the old soil, and make everything as clean and sweet as possible. Turfy loam stacked until the herbage is dead, a sixth of old mortar rubbish and a tenth of charcoal form a suitable compost.

If the weather prove cold and sunless it will be necessary to employ a little fire heat, as a low temperature induces stunted fruits, canker at the collar, and mildew on the foliage. Enough artificial heat should be used in such weather to maintain a night temperature of 65° to 70°, and 70° to 75° by day. Sulphur dusted on the foliage and the hot-water pipes is the best cure for mildew and white fly, and quicklime rubbed into the affected parts acts well against the canker. If aphides appear fumigate on a calm evening, and repeat early the following morning. This also acts well against thrips, but for these and also red spider no practice is better than judicious syringing, even with hot water occasionally at 140°. After a period of dull weather shade on a return of bright sun, so as to prevent flagging. Keep the growths regularly attended to twice a week, remove exhausted shoots, and maintain a succession of bearing wood by laying in young growths. Close early, running up to 90° to 100°, and ventilate moderately, keeping up a good moisture by frequently damping the paths.

Peaches and Nectarines.—*Early Forced Trees.*—Those which were started by or before the new year, whether the varieties consist of very early, such as Alexander and Waterloo Peaches, with Advance or Cardinal Nectarines, or such as Hale's Early, Stirling Castle, Royal George, and Dymond Peaches, with Early Rivers, Lord Napier, and Goldoni Nectarines, have been cleared of their fruit some time. They have also had the wood on which the fruit was borne removed, also the superfluous growths, so that those retained have abundance of light and air for perfecting the fruit buds and the maturity of the wood, which is encouraged by clean foliage and proper supplies of nourishment. The trees must be cleansed of insects if necessary by the prompt employment of an insecticide, and duly supplied with water, or in the case of weak trees liquid manure at the roots. A light mulching will also tend to keep the roots near the surface and prevent the premature ripening of the foliage. The buds will be sufficiently plumped, and the wood enough ripened to allow of the roof-lights being removed, which should not be further delayed. This is an old and commendable practice, not the least of its advantages being the thorough moistening of the border by the autumn rains. Where the roof-lights are not removable air should be admitted to the fullest extent; a little whitewash syringed on the roof-lights where the panes of glass are large, and when the sun's rays are powerful, such as occurs during bright weather, will be useful in preventing the over-maturity of the buds and their dropping at a later period.

Succession Houses.—Trees started in February have mostly been cleared of their fruit, but some are still ripening and need free ventilation. As the fruit is removed cut out the wood that has borne it, and thin the growths where too close, or where they are so near together that the foliage cannot have proper exposure to light and air. Cleanse the trees from dust and red spider by forcible syringing, employing an insecticide against it and scale. Keep the border moist, supplying liquid manure if the trees have cropped heavily and are enfeebled. This helps them to recuperate and plump the buds. Stop all laterals to one joint, or allow a little extension if the trees have the blossom buds prominent and the leaves have been infested with red spider, with a view to continuing the root action and at the same time divert the sap from the principal buds, which must not be forced into growth. When the buds are well formed and the wood duly matured remove the roof-lights.

Trees Swelling their Fruit.—Those started in March and only given sufficient heat to insure safety for the blossom and fruit from frost, or maintain a steady progress in cold periods, have the fruit in an advanced state for ripening. The leaves should be drawn aside and the fruit raised by means of laths across the trellis, so that the apex will be exposed to the light. Water inside, also outside borders where necessary with liquid manure, and keep the surface lightly mulched with short, rather lumpy manure, but avoid heavy coatings, especially of matter likely to form a soapy mass, and exclude air. Commence ventilating early; in fact, leave a little air on all night, syringing by 7 A.M., and through the early part of the day ventilate freely.

When the sun loses power in the afternoon reduce the ventilation, and raise the temperature to 85° or 90° about 4 P.M., with a good syringing and damping of surfaces; but it must be done with judgment, for when the water hangs for any length of time on the fruit during the last swelling, it is liable to damage the skin, causing it to crack, or, if not that, it may impart a musty flavour. Therefore have the fruits dry before

nightfall, and when the day is likely to be dull omit the morning syringing. Directly the fruit commences to ripen cease syringing, but afford moisture by damping the paths and borders whenever they become dry, ventilating freely, and sufficiently at night to insure a free circulation of air.

Late Houses.—In order to assist the swelling of the fruit, observe the conditions laid down in the preceding paragraph. To accelerate the ripening, if desired, ventilate rather freely in the early part of the day, and till one o'clock, then conserve the heat by reducing the ventilation, so as to secure a temperature of 80° to 85°, and at 4 P.M. close the house, syringing well, and no harm will come if the heat rise to 90° or 95°, ventilating about six o'clock, so as to let the pent-up moisture escape, and reduce the temperature gradually. Tie down growths as they advance, allowing no more than are necessary for next year's fruiting and for furnishing the trees, letting all have space for development, and the full exposure of the foliage to light and air. Keep laterals stopped to one leaf, also those of growths retained to attract the sap to the fruit. If there are any gross growths which push shoots from the leaf buds, cut them back to where the buds remain intact, or if likely to disarrange the equilibrium of the trees by the unequalisation of the sap remove them altogether. They only tend to promote gumming, imperfect setting, and certain casting of the fruit in stoning. Draw the leaves away from the fruit, raise it from the under side of the trellis, and let it have as much sun and air as possible. Peaches are not so much prized unless coloured, the flavour corresponding thereto, other conditions being favourable.



WORK IN THE APIARY.

ALTHOUGH it is not ideal weather for honey production, it is an improvement on the past year or two. Only on a few occasions during the past fortnight has the weather been really favourable for the bees to store a surplus. Dull days and occasional thunder showers have had the effect of keeping the bees at home. It is, however, surprising the amount of honey a strong colony of bees will store at this season when the sun is bright and the temperature high.

The late rains benefited the pastures and there is now an abundance of bee forage. White Clover is still blooming freely, and the Limes are fast bursting into flower, from which a superior sample of honey is being stored.

Sections must be removed from the supers as soon as they are sealed over, otherwise they will soon become discoloured. In removing supers at this season it is not necessary to use the smoker, all that is required for the purpose is a piece of calico which may be dipped in water and afterwards sprinkled with carbolic acid, which should be done an hour before it is required. The carbolic cloth must be laid over the top of the supers for a few minutes, and will have the effect of driving all the bees down among the brood combs; the sections may then be handled with impunity.

If the whole of the sections are sealed over they may be removed bodily, and a crate of empty sections should take their place. If a double crate of sections has been on a single hive, as advised in previous notes, the lower crate will be partly sealed over.

It is not too late in the season to place an empty crate underneath, as there is still a possibility of it being filled. It is not advisable, however, to do so after the middle of July unless a crop of honey can be obtained from the Heather or other late blooming plants. In this district (South Yorkshire) the Limes are the last source from which the bees obtain a surplus. This season, however, is an exception as regards White Clover, as on our heavy soil there is every appearance of it lasting for several weeks yet.

Sections should be stored in a dry place, and be cleaned of any propolis that may adhere to them. They will then be ready for use without any further trouble. If the wood is stained they may be improved by rubbing them lightly with sandpaper. The sections should always stand in the same position they occupied on the hive, no leakage will then take place should there be any cells not properly sealed. If a mark of some description is placed on the top one may see at a glance how to place them.

Extracted honey should be stored in cisterns or other large vessels, so that attention may be given to it after the busy season in the apiary is over. For this purpose we prefer large cisterns similar to an extractor with the works removed. These are made with a close-fitting lid and a treacle tap at the bottom. Cisterns of this description are most useful for storing purposes and also for bottling, as the honey when running through the treacle tap may be regulated to a nicety. Run honey when well ripened will soon granulate if stored in a cold place. It is then somewhat difficult to handle if required for small bottles. If it is not needed in bulk no time should be lost in bottling it, thus avoiding much trouble in melting it after granulation has taken place.—AN ENGLISH BEE-KEEPER.



- All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **S. Rose Hill Road, Wandsworth, S.W.**, and **NOT** to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Black Sulphur versus Flowers of Sulphur for Use on Vines (W. W. L.).—We are glad you have found sulphur the best remedy for red spider, blowing it over the leaves by a bellows apparatus, as you have done for three years. The sun causes some fumes to be given off, and these act well on the red spider and the fungoid enemies of the Vine. Flowers of sulphur are the best for this purpose, as they are purer than black or sulphur vivum, which contain iron and other impurities, such as sulphate of lime. The fumes are not so freely given off, but some prefer it on account of its dark colour and from its heaviness better adhering to the foliage. We have not found it the best for Vines, but we have used it for mildew on Chrysanthemums, Roses, and Peaches. We also use it for making bisulphide of calcium for destroying mildews and mites, but sulphides injure the skin of Grapes unless washed off within a quarter of an hour, and they also discolour paint.

Fungus on Woodwork and Walls of Cellar (S. R.).—The skin-like layer or filamentous mycelium developed vigorously on the nourishing substratum of wood or even on walls (the nourishment being drawn from the wood) is the dry-rot fungus, *Merulius lacrymans*, though there exists evidence also of *Polyporus vaporarius*, whose mycelium forms snow white sheets on beams and deals, and produces stiff strands several yards in length. It is apt to be specially prevalent in cellars, and in the wooden floors of the ground flat of houses that are unprovided with air spaces beneath, or these not ventilated by through draughts—air bricks in the outside walls and the dwarf walls pigeon holed. The prevention of dry rot fungus is very simple:—1, Use only sound, well seasoned timber for the flooring. 2, Provide an air-chamber or cavity under the floor not less than a foot depth beneath the joists, and the dwarf walls on which these rest built pigeon hole fashion, the ground walls outside and inner having a damp course (asphalt) and the floor joists above this, especially if built into the wall (a bad practice). 3, Provide air-bricks or ventilators in the external walls opening into the air space, and so arranged as to cause a through draught, all the better if from one side of the building to the other. These points attended to there seldom, if ever, occurs dry rot. Cellars are often built so as to foster dry-rot fungus, being practically air-tight; the wood decays there, and the moisture therefrom, surcharged with organic matter, spreads far and wide, often to floors above or near, and the fungus follows. When cellars must be air-tight galvanised iron should be used instead of wood. As regards cure, the best preservative is, perhaps, corrosive sublimate, or the subjection of the timber to the process called kyanising. It consists in immersing the timber in a solution of corrosive sublimate and water in the proportion of 1 lb. of the former to from 10 to 15 gallons of the latter, steeping the wood twenty-four hours for each inch of thickness, and afterwards drying under cover. Creosote answers well, but creosoted timber can hardly be used in dwellings. In a similar case we have known the following answer. All the timber affected and the fungus growing on walls was carefully removed and burned. Air was provided on the lines before mentioned; the walls scalded and scrubbed down, a complete clearance being made, and then a thorough limewashing was given. In preparing this only sufficient water was poured on freshly burned lime to cause it to fall to a fine powder, and then formed into ordinary whitewash with skim milk, two or three handfuls of common salt being added to each pailful. There has not been any trouble since, because the builder in repairing used proper materials on lines practically dry-rot proof.

The Snail Plant (Lewo).—Such is the name that has been bestowed on more than one form of *Medicago*. Yours is probably *orbicularis*, a hardy annual of which the seeds may be sown in the open border in April in any good garden soil.

Coal Ashes for Grass Land and Garden Soil (C. C.).—Ordinary coal ashes have extremely slight manurial value, those from bituminous coal containing 0.4 per cent. of potash, 0.4 of soda, 3.2 of magnesia, 0.2 of phosphoric acid, and 8.5 of sulphuric acid, but are chiefly considered from a mechanical point of view, hence mainly used for application to heavy land to render it more open and friable. Light soils are generally too porous, therefore coal ashes tend to render them still more so, and may therefore do more harm than good. We have found them useful for mixing with strong ditch scourings and with a little gas lime, forming a compost heap, this, after mellowing and turning once, being applied to grass land in the autumn or winter.

Cucumber Leaves Diseased (E. E.).—The spots on the leaves are caused by a parasitic fungus closely allied to that of the Potato, attacking the leaves in a somewhat similar manner. The fungus, *Plasmopora cubensis*, has a destructive effect on cucurbitaceous plants, but has only been recently recognised as occurring on Cucumbers in this country, though there is no question of its wide distribution. The mycelium, after entering the leaf, forms a germinating spore, develops between the cells, and sends suckers into these to absorb their contents. In due time the mycelial hypha sends out branches through the breathing pores (stomata) of the leaf, on the tips of which are produced the spores. The injured leaves turn yellowish and afterwards brown in spots, and are finally destroyed. The parasite, so far, has not proved very destructive in this country, and seems to be kept in check by the high temperature to which Cucumbers are subjected on the "express" system, though it, late in the season and in dull periods, sometimes destroys the tender foliage. Damp and relative cold appear its chief provocatives, therefore we advise a comparatively high temperature and moderately dry atmosphere, with the removal of all spotted leaves as they appear, burning them.

Violets to Bloom in September (Jardinière).—The best method of having Czar and the better varieties, Princess of Prussia, &c., and Marie Louise in bloom in September is to plant out sturdy suckers, well rooted, as single crowns during April, the plants being from frames and well hardened. This may sacrifice some bloom, but it must be done so as to plant not later than the middle of the month named, the Czar being placed 15 inches apart and Marie Louise 1 foot, planting in quincunx order, and omitting every fourth row for the Czar and fifth for the Marie Louise to form paths. The soil should be well manured and worked prior to planting, then made firm, if of an open loose nature, and the situation should be open, but sheltered from cutting winds. Weeds and runners must be carefully kept down, and in May or early in June the ground mulched with short manure, but duly beaten and prepared so as to prevent the growth of any weed seeds, and during dry weather the plants must be well supplied with water. Towards the end of August the plants will be coming into flower, when they should be carefully lifted with a ball of earth and placed in rich soil in frames. If this work is well done the plants will sustain little check if well watered and, if necessary, shaded for a time. They soon endure and enjoy full exposure to the weather, the lights not being used except in case of very heavy rains, when the sashes must be tilted. When frost prevails keep them closed, admitting air as soon as the frost has departed. The plants cannot have too much air, hence the frames only afford protection from climatic vicissitudes and consequent injurious effects. Such has been our procedure, and properly carried out has never failed in affording Violets in late summer. It is important that the plants be forward and strong to insure early flowering. The Czar varieties especially do well outdoors, but more certain in frames for the reasons given.

Growing and Forcing Lily of the Valley (Idem).—By adopting a system of annually preparing plants for forcing, excellent crowns, equal in every respect to those imported, may be obtained in this country. The procedure is to select a piece of good ground on an east or a west border, manured and well trenched. In this the crowns should be planted 2 inches apart in rows not less than 9 inches asunder, taking out a trench, placing the crowns upright in it, so that their points are just below the surface, then filling in, every sixth row being left out to form beds or alleys between them, then hoeing occasionally to keep the surface open and clean. A mulch of well rotted manure, about an inch thick, may be placed on the soil on the approach of dry weather, and water must be given as required until the leaves die away. Crowns thus treated may be lifted for forcing the following winter; but if they are young when planted, or not more than two years old, they should be left till the second year, as only the strong and early ripened are suitable for very early forcing. Badly grown crowns are of no use, whether they are British or Berlin. Place the boldest and best ripened crowns rather thickly in pots, boxes, or beds, and shake a little fine soil or cocoa-nut refuse amongst the roots, then pressing down, but not quite over the tops, which cover with moss or leaves free from slugs. Plunge in bottom heat of 85°, and maintain a top heat of 75°, inverting a pot or box of similar size over them to keep the crowns in a darkened position. This is beneficial in starting them into growth and drawing up the spikes of bloom. In about a month the flowers will be fit for cutting. We grow large quantities in an ordinary pit over a hotbed, inserting the crowns about an inch apart, keep the lights covered with mats, and cut the flowers as they become fit, and have not the slightest trouble. We grow our own crowns, planting a fresh lot every year in thousands. The finest of unripened crowns do not start freely when used for early forcing; you may have to purchase to begin with.

Judging Cottage Gardens (W. T.).—The lists you send are quite useless. A number of crops growing in different gardens can only be properly judged by correctly determining the number of merit marks deserved by each, and attaching these marks as the examination proceeds, with others that may be merited for cleanliness, good order, and the intelligent arrangement and proportion of the crops. We have known two competent men in carrying out this system not to differ to the extent of one point or mark in a hundred. In case of doubt go over the gardens again on the lines suggested.

Diseased China Asters (A. H. E.).—The plants are suffering from what is termed "sickness," but we failed to discover the Aster worm, *Echytræus parvulus*, or any form of "white worm," such as is commonly associated with decay in the root-stems of Asters, Clovers, Cucumbers, Bamboos, Vegetable Marrows, and other plants. We, however, found an eelworm, *Tylenchus obtusus*, in the first bit of diseased root-stem examined. The external tissues were perfectly healthy, both above and below ground, except at the point of the radicle, which was black and dead, while the lateral roots were quite white and healthy, but, of course, above the point of emission of the radicle by the seed. In the dead woody parts were resting spores of the fungus named *Fusarium solani*, or a not apparently different body. There were not, however, any outgrowths, but these may appear on the dead parts later on. The fungus we consider the cause, the eelworm probably assisting to break down the sickly plants, induced, we consider, by continual cropping in the same ground, though we have practised it much longer than in your case. We advise a change of land for the Asters in future. A dressing of lime, 1 cwt. per rod, applied hot, left on the surface for a few days, and then forked in, has a good effect on infested land, treating in autumn during dry weather. If a dressing of kainit, 10½ lbs. per rod, be supplied shortly afterwards, trouble from the fungus, eelworm, or whiteworm will be avoided.

Fungus on Broad Bean Leaf (W. R. H.).—The fungus giving rise to the small brown spots on the upper surface of one leaflet, and destroying the tissues, as well as the yellow specks on the other two leaflets, which have some brown pustules on the under side and a few on the upper, is the Bean rust, now in the summer spore condition, called by botanists *Uredo or Trichobasis Fabæ*, but in some of the older pustules are a few winter resting, or teleuto spores, the final stage of the fungus *Puccinia Fabæ*. The fungus has no connection, so far as we are aware, with *Puccinia Chrysanthemæ*, which certainly was introduced into this country as plasma on or in imported plants. Not having found the *Chrysanthemum* leaf rust on any native naturalised plant in Britain, and failed to induce germination on those of the same tribe, we do not consider you have anything to fear from the Bean rust. But as the *Puccinias* must have had a common origin, and may be capable of variation under peculiarly favourable circumstances, we should make assurance doubly sure by destroying the parasite on the Beans, treating them with the paraffin you have found so successful in combating that of the *Chrysanthemum*. We have not heard of any cases of *Chrysanthemum* fungus lately, still we advise growers to be on the alert, and keep a very strict watch on imported plants, whether Continental or American, as well as on plants from diseased parents.

Acacia Wood (Nottingham).—The common *Acacia* (*Robinia pseud-acacia*) has been used for fencing purposes in this country, and we know one instance where a post had been standing for at least forty years and retained all its solidity. The tree is very ornamental and useful, and is the same which was introduced some years ago from America under the name of the Locust tree. In Dr. Hogg's "Vegetable Kingdom" we find the following:—"It grows abundantly all over North America, from Canada to the Southern States; and is there highly valued for the hardness and durability of its wood. It was with it that most of the houses were built which sheltered the Pilgrim Fathers, and founded the city of Boston. The wood, when green, is of a soft texture, but, when dry, is very hard, close grained, and finely veined; and in America is more valued by cabinet makers than any timber whatever. For the axle trees of carriages, when such were made of wood, it was in great requisition, and it makes excellent trenails in shipbuilding. For agricultural purposes it has been found very useful, both for posts and rails, and gate-posts, as it stands the action of wet and dry, at the surface of the ground, better than any other timber in common use. A cubic foot of the wood in a dry state weighs from 48 to 53 lbs. If we compare its toughness, in an unseasoned condition, with that of oak, it will not be more than 0.08 less. Its stiffness is equal to 0.99 of oak, and its strength nearly 0.96; but were it properly seasoned it might be found much superior to oak in strength, stiffness, and toughness. A piece of unseasoned *Acacia* 2 feet 6 inches long and 1 inch square in the vertical section broke when loaded with a weight of 247 lbs. As an ornamental tree, the *Acacia* is well worthy of notice, its graceful foliage and profusion of fragrant flowers, rendering it peculiarly adapted for parks and pleasure grounds."

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than

six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. H. L.).—7, *Monanthus muralis*; 8, *Crassula cordata*; 9, *Echeveria Peacockii*; 10, *Crassula perforata*; 11, *Sedum dasyphyllum*; 12, *Cotyledon adunca*. (C. D. J.).—1, *Enonymus verrucosus*; 2, *Cratægus tomentosa*; 3, *Euonymus europæus*; 4, *Staphylea pinnata*; 5, *Cornus Mas*. (*Ignoramus*).—1, *Convolvulus minor*; 2, *Echinops Ritro*; 3, *Achillea ptarmica* fl.-pl.; 4, *Linum tenuifolium*. Peaches and Nectarines cannot be named without fully developed leaves, and information as to whether the flowers are large or small.

COVENT GARDEN MARKET.—JULY 19TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, Tasmanian, case	13	0 to 20	0	Melons	1 0 to 3 0
Cherries, ½ sieve	5	0	8 0	Nectarines, per doz.	8 0 12 0
„ cooking, sieve of 24 lbs.	5	0	6 6	Peaches, per doz.	8 0 15 0
Currants, red, per sieve	5	0	6 0	Pears, Californian, case...	6 0 8 0
„ black, per sieve	5	0	6 0	Pines, St. Michael's, each	8 0 6 0
Figs, green, per doz.	8	0	6 0	Plums, per box...	1 6 2 0
Gooseberries, ½ sieve	2	9	0 0	„ Californian, case...	8 0 12 0
Greengages, box of 40 to 48	1	0	1 2	Raspberries, doz. punnets	8 0 6 0
Grapes, black	1	0	8 0	Strawberries, outdoor, bkt	0 6 1 6
Lemons, case	14	0	86 0	„ peck	3 0 6 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1	0 to 2	0	Lettuce, doz.	1 8 to 0 0
Aubergine, per doz.	1	6	2 0	Mushrooms, lb.	0 6 0 0
Beans, ½ sieve	4	6	5 6	Mustard and Cress, punnet	0 2 0 0
„ Longpods, ½ bushel	1	6	0 0	Onions, bag, about 1 cwt.	5 6 0 0
„ Scarlet, ½ sieve	4	0	5 0	Parsley, doz. bunches	2 0 4 0
Beet, Red, doz.	1	0	0 0	Peas, per bushel	2 0 4 0
Cabbages, per tally	7	0	0 0	Potatoes, cwt.	2 0 6 0
Carrots, per doz.	8	0	4 0	„ new	9 0 11 0
Cauliflowers, doz.	2	0	4 0	Shallots, lb.	0 8 0 0
Celery, n-w, per bundle	1	9	0 0	Spinach, per bushel	0 0 4 0
Cucumbers	0	4	0 0	Tomatoes, per doz. lbs.	2 0 4 6
Endive, doz.	1	8	1 6	Turnips, bunch...	0 8 0 4
Herbs, bunch	0	8	0 0	Vegetable Marrows, doz.	8 0 4 0
Leeks, bunch	0	2	0 0		

Tomato trade very bad; arrivals heavy.

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bunches...	1	6 to 2	0	Lily of the Valley, 12 sprays	0 4 to 1 0
Arums	8	0	4 0	Marguerites, doz. bnchs.	3 0 4 0
Asparagus, Fern, bunch...	2	0	2 6	Maidenhair Fern, doz.	
Azalea, white, doz. bnchs.	8	0	4 0	bnchs.	4 0 6 0
Carnations, 12 blooms	1	6	8 0	Mignonette, doz. bunches	4 0 6 0
Daffodils, single yellow,				Narcissus, doz. bnchs.	1 0 2 0
boh. 12 blooms	0	6	0 8	Ochids, var., doz. blooms	1 6 9 0
Daffodils, double, bunches	0	4	0 6	Pelargoniums, doz. bnchs.	4 0 6 0
Eucharis, doz.	2	0	3 0	Pæonies, doz. bnchs.	4 0 8 0
Freesia, doz. bnchs.	2	0	3 0	Roses (indoor), doz.	2 0 3 0
Gardenias, doz.	1	0	2 0	„ Red, doz.	2 0 4 0
Geranium, scarlet, doz.				„ Tea, white, doz.	2 0 3 0
bnchs.	4	0	6 0	„ Yellow, doz. (Perles)	2 0 8 0
Hyacinths, Roman, bunch	0	4	0 6	„ Safrano, doz.	2 0 2 6
Iris, per doz. bunches	6	0	12 0	Smilax, bunch	8 0 4 0
Lilium Harrisii, 12 blooms	8	0	4 0	Tulips, bunch	0 4 0 6
„ longiflorum, 12 blooms	4	0	6 0		

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vita, var., doz.	6	0 to 8	0	Foliage plants, var., each	1 0 to 5 0
Aspidistra, doz.	18	0	86 0	Fuchsias, doz.	4 0 6 0
Aspidistra, specimen	5	0	10 6	Heliotropes, doz.	4 0 6 0
Boronia	12	0	18 0	Hydrangeas	6 0 10 0
Oxalis, doz.	18	0	24 0	Lilium Harrisii, doz.	12 0 18 0
Dracena, var., doz.	12	0	30 0	Lycopodiums, doz.	3 0 4 0
Dracena viridia, doz.	9	0	18 0	Marguerite Daisy, doz.	6 0 8 0
Erica various, doz.	9	0	24 0	Myrtles, doz.	6 0 9 0
Euonymus, var., doz.	6	0	18 0	Palms, in var., each	1 0 15 0
Evergreens, var., doz.	4	0	18 0	„ specimens	21 0 63 0
Fern, var., doz.	4	0	18 0	Pelargoniums, scarlet, doz.	4 0 6 0
„ small, 100	4	0	8 0	Solanums, doz.	6 0 12 0
Ficus elastica, each	1	0	7 0	Stocks	4 0 6 0

Bedding out plants in variety from 8s. doz.

TRADE CATALOGUES RECEIVED.

Takaghi & Co., 160, Komagome Denshu, Tokio, Japan.—Wholesale Price List.

Thames Bank Iron Company, Upper Ground Street, Blackfriars.—Trade Price List.

PEA GLORY OF DEVON.—Correction.—By a printer's error we stated on page 27 among the certificates and awards of merit that Pea Glory of Devon was shown by J. Veitch & Sons. This was not the case, as it was exhibited by the Exeter firm of Robert Veitch & Son.



PREPARATION FOR HARVEST.

"KEEP your powder dry" was Cromwell's motto. We are not told that he included any advice as to the efficiency of the weapons by the aid of which the powder was used. No doubt in those days, as now, it was the first duty of the soldier to keep his arms bright, clean, and in good order.

Now the farmer does not find it necessary or advisable to keep his reaping machines and other harvesting tackle in good working condition all the year round, but it behoves him all the more urgently to set to work as soon as midsummer has passed to overhaul, clean, put together, and thoroughly test every part of the machines which he will so soon be depending on to cut his grain.

Reapers are things that very soon show signs of wear, and if we imagine that because a machine was new only last year it will require no repairs, we may find ourselves much mistaken. Machine makers are only human, and their best efforts cannot prevent there being inequalities of construction, apart from the fact that some sections are subjected to much more wear and tear than others; otherwise they would wear till there was nothing left, as in the case of Wendell Holmes's "one horse shay."

Yes; be the machine old or new, we must see that it is in perfect order, and as far as possible avoid any danger of a breakdown during the precious hours of sunshine, when the crops are ripe and waiting to be laid low. There is nothing more galling than to be tinkering a broken-down reaper on a fine day, and listening to the merry rattle of our neighbours over the fence; whilst in the case of a non-binder the circle of daily-paid men, unable altogether to conceal their satisfaction at an extra interval of rest, is even more exasperating than their black looks and grumbles should they be at piece-work, and therefore suffering from the delay as well as their master.

A wise man will purchase duplicates of the more quickly wearing parts when he buys the machine; two or three spare connecting-rods, a good supply of knife sections and points there must be, and no stint of rivets. There should be not less than three full frames of sections (or knives), and plenty of good files. We have used mill saw files for sharpening reaper sections, and found them wear longer than two or three ordinary reaper files, or than those sold generally for the purpose. They are rather narrow and thick, and they file on their edges; they will not easily break under pressure.

After three or four years' wear it is well to get duplicates of more important parts, for unless the machine is parted with they will have to be got some time. These heavy parts, such as the driving wheel, are expensive, and may not be required for many years, but a duplicate in stock will not eat much, and may save a very vexatious and expensive delay when a breakdown does occur. Another point is to be prepared with strong bolts and nuts to take the place at a moment's notice of any that may break or shake off. A good man is supposed to look well after his machine and keep everything tight and right, but the best of men have lax moments.

Where self binders are used 5 cwt. per machine of twine of the best quality must be provided for the start. It can be bought more cheaply in quantity in advance, and sometimes is difficult to get at all when wanted. It is disagreeable to have to run about to neighbours to borrow, for however good natured they may be, few men lend very willingly what they may so soon require themselves, and it is a bad policy to strain too far the limits of good neighbourliness.

The waggons and carts should be looked over and tested as to the soundness of axles and shafts, and the wheels well greased. Wheels that have not been recently used must be examined to see that the tires are tight, and if they are very loose they had better be removed and put on again. A soaking in the pond will sometimes tighten them up

sufficiently; but if they have been very loose they soon dry and loosen themselves again, whilst the wet and dry treatment is not calculated to increase the wearing qualities of the rims, but the contrary will be the result.

Farmers are everywhere experiencing so much trouble in obtaining the essential labour for their farms that it is hardly necessary to say how advisable it is to procure the extra force for the harvest in good time. Those who have held off, waiting for wandering Irishmen to turn up just when they were required, have had unpleasant experiences during the last three or four years. It is all very well to say that the labour bill must be kept down, and corn does not make enough money to pay for unnecessary labour, but the man who waits until the last moment for fear that he may engage one man more than he wants will have to put up with other people's leavings, and is quite as likely afterwards to be complaining that he can get nobody.

After all, and in spite of all the reapers and binders, the most useful man in the harvest field is the man who is both able and willing to wield a scythe.

WORK ON THE HOME FARM.

Except for one heavy shower we have had a fine week, and have stacked the bulk of the hay in fair condition. It is not of the quality of last year, when the new hayricks were almost as bright in colour as the pastures, but we hope that the quality will be fair; no one can tell until the first cutting is made in autumn. If free from mould the hay should be of average quality, but a few patches of white fungus will reduce the value almost to nil.

There have been thunderstorms and heavy rain in various districts, but so far as we have seen very little corn has been laid, which shows that the crops are not heavy. We fancy that phenomenal rain would be required to lay much Barley, as this crop is very stunted in its growth, and will cut up light at harvest. More rain would do it good, and Oats require more moisture, too, for they are even worse than the Barley on the strong soils. Wheats are looking very well, and have improved. They promise to be over the average, but at the present price, 27s. per quarter will not count money up very fast.

About this time we generally see waggon-loads of wool leaving the stations for the manufacturing centres. So far this season little has been sold; 17s. per tod is not tempting to those who can afford to hold over. Needy sellers who require the money for harvest wages have to take that price.

We see a suggestion in a contemporary that the present price of wool does not pay for the dipping, clipping, losses from overturning, and fly damage, and the desire is expressed for a new kind of sheep without wool. This is not amiss as a jest, but if we had such an animal could it exist out of doors through an English winter.

Plots from which Tares have been recently mown may now be worked, manured, and ploughed for growing winter Cabbage plants, which do well if sown on or near August 5th. Dress with superphosphate at the rate of 5 cwt. per acre. Sow the seed broadcast about 10 lbs. to the acre. If 6 acres are to be planted in November, 1 rood of plants, or about 80,000, will be sufficient, and so in proportion for smaller or larger areas.

Turnips are growing well, and are all ready for the hoe. A friend tells us that when men are scarce, he harrows his Turnips twice across the rows first, and then thins them out as far as is necessary when time will allow.

TURPENTINE FOR THE TURNIP FLEA BEETLE.—As considerable damage appears to have been done by the ravages of this pest in different parts of the country, I think it cannot be made too widely known that dressing the seed with turpentine the night before sowing is a simple and effectual remedy. Several years ago, a farmer, writing from forty years' experience, gave this as an unfailing remedy, and I have tried it since with complete success. While others in the neighbourhood have had to sow a second time in consequence of the attack of the fly, I can show to any of your readers who may care to inspect it, a full and excellent plant from adopting this simple remedy. Half a pint of turpentine is sufficient to dress 40 lbs. of seed, but I would rather err on the side of using a little more. Paraffin or other oils will not have the same effect. Turpentine, being a spirit, penetrates the seed (without destroying its germinating powers), and gives to the young plant a flavour of turpentine, which the fly does not relish, until the plant has got into the rough leaf, when it is safe from further attack. —JOHN HILL (in "Worcester Herald.") [We shall be obliged by readers trying the simple preventive method advised and reporting the effects.]

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Journal of Horticulture.

THURSDAY, JULY 27, 1899.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 8/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

STRAWBERRIES IN 1899.

THE promise of spring in respect of Strawberries has not been by any means fulfilled. I can scarcely remember another year when the outcry was so general of the shortness of the supply. The Bath shops and markets, which are usually so well supplied from a large area in the West of England, I found on inquiry were very inadequately furnished, so much so, indeed, that the sales did not extend beyond the morning.

The season, no doubt, was shortened through the intervention of frost and drought. The first named cut off the earliest flowers, while the drought, accompanied by such extreme sun heat, caused the later set berries to remain stationary. There are almost numberless Strawberries in this state everywhere, and only in occasional instances are there beds carrying a perfect crop. On page 7 "Observer" ascribes the failure largely to the influence which the great drought of last year brought with it, but although this can be admitted in many cases, it cannot be so in everyone. I do not think the Strawberry quarters ever looked better in these gardens than they did at the flowering time, although not a drop of water was applied artificially last summer or this year. Manuring and mulching always go hand in hand, so that moisture is conserved by the strawy material, which has its manurial properties washed out of it into the soil by the winter rain. This I always put on fresh from the stables.

Except on light soils last summer there were full crops, and these were materially supported by the heavy rain storms in June. It was later, and when the plants were relieved of their crops, that the extent of the drought was most keenly felt, and, except in extreme cases, I do not think this can be made to explain the barrenness of the plants this year.

Runners layered into pots fairly early last summer, and planted out as soon as ready on land well prepared and firm, have given a very good crop this season, even after the loss of their first-opened flowers through the frost, and were as vigorous as one could wish. There were great difficulties in

getting rooted runners on straw-mulched beds last year because of the continued absence of rain. This year runners have rooted freely on soil where no straw litter has been used, when last summer watering had to be resorted to before any roots could be induced to form at all. In some seasons ground runners are equally as good for outdoor planting as pot layers, and when placed in their permanent quarters in suitable weather, they grow almost without feeling the check. This course saves much labour at a time when most needed; the protection and gathering of the varied crops taxes the labour staff of most gardens when brought into conflict with other work of a routine character.

It is an excellent practice to provide plants specially for layering, either in pots for forcing or outdoor growth, by setting apart a number proportionate to the quantities needed for each purpose on borders conveniently placed for their special treatment. Young plants are best for this, and they can be planted later than others which are to form permanent plantations. Their flower spikes ought to be removed as soon as they appear in spring, so that their whole energy is concentrated on the runners. By allowing an additional foot of space between each variety they can be more easily kept separate, and the extra space will be helpful to those entrusted with the work of layering. Single lines are planted by some near the edges of the garden paths, so that the pots, whether fruiting, or smaller sizes are used, can be arranged on the paths, and be easily attended to in the matter of water.

Except for experimental purposes and for comparison a large selection of varieties is not needed for home or market use—indeed, the fewer there are, comparatively speaking, the better; but it is well to introduce new comers, with a view to comparing them in all-round qualities with older well-tried varieties, and it is not in every case true wisdom to discard after one year's trial. The longer the acquaintance made of Royal Sovereign, the less favourable is my opinion of it for outdoor cultivation; for pots its reputation remains unchanged.

Soil plays such an important part in Strawberry growing, that it is not always safe to plant largely until it is known whether the ground is really suited to any particular sort. There is great unanimity of opinion bearing on the merits of Royal Sovereign as a forcing variety, but for outdoor culture there is quite as varied an opinion, favourable and otherwise. It gives a poor return as a yearling plant, and with greater age it assumes a preponderance of leafage, quite out of proportion to the crop of berries. The older Sir Joseph Paxton, which at one time I had intended to discard, will yet assume its old position, because it suits the ground better. Alice Maude is a neat grower, fruits freely, is very bright in its colour, but its quality does not equal either. It is, however, a most desirable sort. Monarch and Georges Lesuir are both too shy fruiting to justify any further trial here, and Gunton Park with me is not very free, although it is of high quality and firm fleshed. This resembles Countess in appearance, a variety that does well in the R.H.S. Gardens at Chiswick. I have discarded it some time since, because of its small crop. Neither British Queen nor Dr. Hogg unfortunately satisfies in the extent of their crop, but further opportunities will be given them.

No variety I have planted has given such all-round satisfaction as Latest of All. Its berries are large and most freely borne. The plants are moderate in growth and thus need less space than some others. It pleases purchasers in the local market, and is highly praised in the dining-room. The only fault raised against it is its green tip when gathered too early. Not only has it these qualities, but it is the heaviest bearing sort I have, "as an annual." Usually two seasons' fruiting exhausts its constitution by reason of the heavy loads matured. I am well aware that it is not known by such a good name with many other growers. On light soils, or in hot situations, I have seen it almost defoliated with red spider, and its crops of little value; in heavy land its constitution is not sufficiently robust. The soil here is what may be described as medium, being neither heavy nor very light, and having a subsoil of sandy clay. This, made fertile with timely dressings of manure preparatory for planting, and early mulching with fresh litter, meets its requirements admirably.

Many other sorts have been tried and found wanting, and thus

have given place to a reduced list. Eleanor is a good late one, but not so very free-bearing. Loxford Hall is the latest of all I grow, and for that reason, even though the crop may be light, it is invaluable. On soil overlaying gravel I have seen wonderful crops of this variety. Leader has made a favourable impression, and will be extended both for forcing and for outdoor growth.

I agree with "Observer" in the estimate he places on the value of watering with sewage or even clear water, but in so many gardens there is none, or but slight provision for carrying out such heavy work. In light ground liquid manure poured on in the autumn materially improves the future crops. In the absence of this the only alternative is to apply the mulch of manure early, so that the utmost use may be made of it through the winter's rain, and where means allow apply a surfacing of artificial manure under the mulching.—W. STRUGNELL, *Road Ashton*.

BARREN STRAWBERRY RUNNERS.

I SEE Mr. A. H. Pearson, on page 33, asks the "writer of the note" on propagating Strawberries to give some grounds for basing the advice relative to propagating from fruitful plants only. In the first place I would like to say that the advice is based not only on the statements of the best authorities, but on practical experience with the variety Noble some years ago. Some plants of this variety, popular at that time, were obtained from a nursery, and being very small they were planted in a space to themselves. They made fair growth, but did not fruit.

Runners were propagated from them, as it was thought these would with a long season of growth, being rooted and planted early in August, be able to produce fruit, but every plant was an absolute failure in the matter of fruiting. They were planted on well prepared ground in an open position, making remarkably good growth, but developed no trusses of bloom. They were left alone for another season, and again the plants did not fruit. Here was a case, then, of propagating from unfruitful plants, with the result that the cultivated progeny also exhibited the same tendency. This corroborated the advice I had frequently seen given by reliable authorities, and I resolved never to give myself the trouble again of raising stock from fruitless plants, or to advise others to do so.

Practical gardeners, as a rule, like to be sure that their work will give desired results, and in the case of Strawberry propagation it is the well-known practice of most growers to distrust runners from fruitless plants. They do not care to waste time experimenting, when they know that Strawberry plants will be practically certain to fruit if the old plants are fruitful the same year runners from them are rooted.

It is interesting to know, however, from Mr. Pearson, that this "ancient superstition," as he terms it, can be disproved. Perhaps the newer varieties are improving in this respect, and it will be no longer necessary for gardeners to be so careful in selecting runners, but to take them haphazard from any plant producing them. Selecting and propagating the best has always been a principle with good cultivators, and is no doubt followed by Mr. Pearson. Why should he term good practice "superstition?" What he thus describes is the best advice that could be given to busy gardeners.—THE WRITER.

I NOTICED Mr. Pearson's remarks, page 33, July 13th, on this subject. Referring to some past statements in the Journal, he seems to regard the idea of inherently fruitless plants as an ancient superstition. Having had some experience on this question, I assure him that it is no superstition, but a real live fact, and it is necessary to be watchful and vigilant to prevent being victimised.

Mr. Pearson's remarks with respect to fruit trees and Strawberry plants being temporarily barren through various causes may be quite true, but they are beside the mark. The barren plants to be avoided may be described as "rogues" or "sports"—a reversion probably to some primitive type in the evolution of the Strawberry. Whether it is so or not, or whether the change is peculiar to certain soils, I know not. That the change occurs in our soil I know from experience, and have had on more than one occasion to discard our own runners and make a clean start.

A Strawberry plant of a fruitless character is good to tell. I can sometimes discern it a long way off. The foliage stands several inches above the ordinary type. The character of the leaves and stalks undergoes a change, and the plant is altogether more robust. If examined

more closely, there is a profusion of runners radiating from it earlier than the others, and extending, if allowed, through several rows on each side. It is no exaggeration to say that a vigorous plant on good ground will, during the season, cover an area of more than 50 square feet.

It requires no great stretch of imagination to see how the runners from one such plant would affect a new plantation. They are just the kind the uninitiated would select, for they are the earliest, most numerous, and most vigorous. The plants they produce are not, however, always barren, for when grown and well ripened they will produce fruit of medium size, usually round, of a pale pink colour, rather sweet, with a sub-acid flavour, which leaves an unpleasant after taste on the palate.

It would be a mistake to leave the rampant runner-producing plants till the ordinary runner-taking time, as it would be difficult then to trace the fruitful plantlets among them. The rogues are easily discovered during the flowering time, when they should be pulled up bodily before the runners emit roots, and so avoid much after trouble and disappointment.

We have at present two small Strawberry beds on a south border—one of Black Prince, the other of Noble—in their fourth year, which are fairly overrun with these "rogues." Very little attention was paid to them for the last year or two, and it was by chance they were not destroyed. During flowering time I removed several barrowloads of barren plants from these beds, but sufficient remain to form a good object lesson on the question at issue.

I am sending you a barren and a fruitful plant with runners attached from each bed, whereby you may probably be able to see the difference in the character of the leaves, as well as the vigour of the plants. I would not think of planting runners from these without using the greatest care in selecting them.

Perhaps I ought to apologise for intruding in this discussion, but seeing that there are diversified opinions on the subject I thought I would give you my experience on the subject. If Mr. Pearson should still be sceptical on the question I shall have pleasure in forwarding him a score or two of strong runners from "barren," "spurious," or "sporting" Noble Strawberry plants to experiment upon, warning him, however, to give them an isolated position.—R. MCINTOSH, York.

[No apology is needed; on the contrary, records of practical experience are welcomed. The difference in the character of the plants received is very apparent. We are not strangers to similar freaks on the part of Strawberry plants, but only in one instance have we tested the progeny of one of the rampant rogues in question. This was many years ago, and the results are embodied somewhere in the *Cottage Gardener*. For the purpose of a trial of several varieties six plants were purchased of La Constante Strawberry. Five of these afforded good crops of fine fruit; the sixth grew luxuriantly, the foliage possessing the same characteristics as the others, but larger, and the plant much taller. Six runners were taken from it, which developed into plants of remarkable luxuriance, but not one of these, nor the parent, produced a blossom during five years, but their runner producing power was extraordinary. We suspect that soil exerts an influence in changing the character of Strawberry plants. From the most productive bed of the variety President we have ever seen a gentleman took runners. In the richer deeper soil of his garden the plants attained unusual dimensions, but they were practically barren and worthless.]

LARGE AMERICAN STRAWBERRIES.

THE Strawberry season just closing has been remarkable in many respects, including the unusual profusion of the fruits and their fine quality, but it has been made memorable by the production of the largest berries on record. Several days ago Mr. Arthur T. Goldsborough presented to the Secretary of Agriculture some berries he had raised at his place on Wesley Heights. The official, astounded at their size, handed them over to the acting pomologist, who took six of them, that filled a quart box, and weighed each separately. The average weight of each was three ounces and six one-hundredths. Total weight of six, eighteen and two-fifths ounces. The largest berry weighed four ounces, and was ten and one-half inches in circumference. Some idea can be formed as to the size of these berries when it is known that a one-ounce berry is rarely seen in our market. A quart of berries usually weighs between seventeen and eighteen ounces, and a box of good berries contains generally between thirty and forty. It is doubtful whether a two-ounce berry was ever shown at the department before.

The fruit was of a handsome bright crimson colour with dark red flesh. A three-ounce berry was shown in Boston several years ago, and a four-ounce berry has been recorded in England. The average weight of Mr. Goldsborough's berries, however, has never been equalled.—(*Washington Star*.)

[We shall be pleased to have particulars of the largest Strawberries grown in this country.]

CYPERUS.

THESE elegant Rush-like plants, which are of easy culture, should be grown by all who possess a greenhouse or stove, as they are pretty plants for room decoration, and their long stems surmounted by whorls of leaves are at all times welcomed when cut for mixing with flowers in vases. The Papyrus of the Egyptians, upon which so many ancient records are written, is said to be a species of Cyperus, but the leaves as we see them in English greenhouses seem somewhat narrow for that purpose, though doubtless when grown by the rivers of tropical countries they are of far larger dimensions, and probably it was the practice to fasten several of them together. Fortunately we are now well supplied with infinitely better materials for writing upon, and we enjoy also the priceless blessing of a powerful press, which disseminates knowledge on any subject under the sun. Blessed indeed are we of the nineteenth century when compared with the sages of ancient times.

The particular reason which led me to pen these notes is that we are now engaged in propagating a large number, as the plants are in great demand during the autumn and winter months, and indeed throughout the year. Perhaps one reason for this demand is that as they are easily and quickly grown the plants may be sold cheaply, and are thus suitable for those who never manage to keep plants of any description very long in a flourishing condition.

Propagation may be effected by division, by seed, or by inserting the tops as cuttings. If plants are required to send up a few very strong shoots, a vigorous old specimen should be divided into pieces, each having two or more crowns. Plants raised from cuttings, however, make the best little specimens for ordinary decorative purposes, as the growth is so compact, and this method of propagation is the one usually adopted. It is done in the following way: Cut off the tops with an inch of stem attached, then shorten the leaves about one-third, and press them into pure coarse sand placed on a bed in the propagating house. If such convenience is not at command, place the sand in shallow boxes, cover with a sheet of glass, and stand in a stove, Cucumber house, or even in a cold frame which is kept close. In either case water thoroughly through a rose, and keep the sand constantly moist. With proper attention in this respect every top will root, and in the course of a few weeks young shoots will spring from the centre of each top. When these are from 1 to 2 inches in length, lift and pot into 3-inch pots, using a compost of loam and leaf soil in equal parts, or peat may be substituted for the leaf soil.

If the young plants are placed in a warm moist house and kept freely syringed they will make rapid progress, and soon be ready for another shift into 5 or 6-inch pots, using soil of a similar nature to that already described: but in this instance it should be in a rough state. After this potting has been performed grow the plants in a warm moist temperature for a couple of weeks, then gradually admit more air to insure sturdy growth, and a few weeks later they may be treated as ordinary greenhouse plants, with the exception that the stages or beds upon which they are arranged should be kept moister than is necessary for the majority of greenhouse plants. It is a good plan to keep some of the plants in 3-inch pots, as they are extremely useful for placing in little vases for room or dinner table decorations, or for mixing with flowering plants in bowls or jardinières. When the soil is packed with roots an occasional application of chemical manure helps to keep them healthy and vigorous, and the leaves of a deep green colour. During the winter the plants should be grown in a stove or intermediate house, because in a cool structure the points of the leaves are apt to become browned.

When grown in heat abundance of water at the root ought to be given, as all the Cyperus are moisture-loving plants, and succeed well when grown in tanks among Water Lilies in an aquatic house. Many stoves and greenhouses have a tank fixed in a prominent position, which is by no means a thing of beauty. Such may be considerably improved in appearance by sinking a few strong potfuls of Cyperus in them. They quickly accustom themselves to the altered conditions, and throw up very strong shoots, which come in useful for cutting, or for supplying seed. This leads me to advance a few words about raising plants from seed, which is a convenient method to practise when tops are scarce. As soon as the seed is ripe and just ready to drop, gather and place in a paper bag, which may be hung in a sunny position in a dry, airy house. In a few weeks it will be ready for sowing. Sow in shallow boxes or pans, just covering the seed with light soil, and the box with a sheet of glass. As in the case of cuttings, keep constantly moist, and the young seedlings will be quickly ready for pricking out into other boxes, and a short time after potting into 3-inch pots. When this stage is reached, the treatment advocated for plants raised from cuttings will be suitable for the seedlings.

The best varieties for ornamental purposes are *C. alternifolius*, its variegated form, and *C. laxus*. The latter is a very effective variety, not so well known as its merits deserve.—H. D.

TURPENTINE FOR THE TURNIP FLEA BEETLE.

LIVING in a neighbourhood where securing a crop of Turnips is a matter of extreme difficulty, I have tried every remedy advised to accomplish that end, among which has been the turpentine dressing of Mr. John Hill in the "Worcester Herald," as mentioned in the *Journal of Horticulture*, July 20th, page 68, but have never found any benefit from it.

In June, 1897, I sowed fifty-three varieties (so called) of Swedes in small plots for trial. Half of each lot of seed was dressed with turpentine, but the flea served all alike. Early in July the same year I put in seventy-three (so called) varieties of white Turnips, dressed in the same way as the Swedes, with the same result, and it was with great difficulty I saved the crop at all.

In June of the present year the question arose as to what is the best cure for the Turnip flea. An entomologist advised turpentine. I thought I would have another try. The first week in July I prepared five plots of 2 rods each, and sowed them with Veitch's Red Globe. No. 1 was dressed with turpentine (seed covered half an hour), No. 2 with paraffin, No. 3 turps and paraffin mixed, No. 4 not dressed, No. 5 dressed with a solution of assafetida from the chemist.

In every plot the attack is the same. Every plant is bitten by the beetle, and many are ruined. Is the turpentine remedy, then, a mere fancy? I am inclined to think so. Within a stone's throw of these plots is a field of part white Turnips and part Swedes. About 6 acres of Swedes are ruined; the rest of the field (about 12 acres) contains a very good plant and no fleas. No dressing of the seed was resorted to. The cause of this difference, in my opinion, is that the part which is gone was sown on a dry seed bed, the remainder close after a shower, the moisture inducing quick germination and free growth. I also note that your correspondent thinks that turpentine penetrates the seed's coat, and so permeates the whole seed. The same theory is held in some parts with assafetida, and I can quite understand if such was the case that the flea would not only leave the plant alone, but would clear out of the field altogether in consequence of the abominable smell.

Your correspondent is quite right when he remarks that turps is a spirit, and being such is very volatile; consequently the small amount contained by the seed soon escapes and leaves the seed with a weakened constitution. Though turpentine does not kill the embryo, in my experience it very much weakens the energy of its germination, which is a matter of great importance and should be guarded against.

The best preventive of the destructive pest that I have found is to be very particular about the preparation of the seed bed. No lumpy ground or small clods should be allowed, but the soil pulverised, sweet and fairly firm underneath, then, when the young plants appear, dust every morning before the dew is gone, the earlier the better, with lime, wood ashes, road dust, or a mixture of all three, when the beetles and plants are damp. This is a sure cure, the beetles do not like dust to stick to them; but it is of no use if applied when the dew has gone. Turnips sown in May alongside of Cabbage badly attacked with beetle are a good crop, which I attribute to early morning dusting, as those not dusted are all destroyed. Unfortunately this can only be practised in small plots and gardens, involving too much labour for field practice, unless some machine can be invented for the purpose.—S. D.

A JULY JUMBLE.

COLD and uncongenial were the opening days of July. "Not a bit like summer," was the grumbling greeting current among those to whom seasonable weather means so much, and whose shortcomings beget many a growl from the garden. It was of brief duration, however, and memory serves not to recall such ideal summer days as have been vouchsafed to us since. Pencilled on one's knee (the paper is so located, I mean) in the waning light of an ideal summer's day, how satisfying is the thought, now its burden and heat are over! This morning, somewhere in the "wee sma' hours," a tumultuous twittering in the bird world sounded the *reveille*, to be succeeded by an ominous calm not less disturbing as thought followed our feathered friends to the Cherry trees, where, doubtless, they were feasting. Two hours of wakefulness and planning, then up, out, and at it—the first bipped presumably in evidence, for the bell-tongue wags not for another hour.

Vain presumption. There are two long-legged rascals knee-deep in the placid waters of the pond, fishing—goldfishing—for a breakfast. "Frank, frank," whatever that means in heron language as they soar up and float majestically away. Oh, you beauties! A pleasant surprise this time, the shimmering heat has burst the earliest buds of Iris Kämpferi and seven satiny blooms illumine the boggy nook devoted to a dozen varieties. Most beautiful of the tribe, four times this day have we paid homage to your charms. Some score of spathes, in all their purity, spring through the handsome leaves of the Callas,

growing *au naturel* in a bay of the pond. In the semi-privacy of the foliage a water-hen has carelessly woven her mat-like nest, and madam, who is possibly indignant at being overlooked, flutters across to where the quaintly pretty frosted flowers of the Bog Bean, *Menyanthes trifoliata*, peep up from the opposite "brim."

A distant clock strikes six; the working day has commenced, but it does not spring as spontaneously into being as it will suddenly cease twelve hours hence. For the next ten minutes here and there a bell lazily proclaims the fact, and the workman who lives farthest away is the first to appear. "Very hot," he says, "it will be a fine day." So say all of them, and their opinion is endorsed by the barometer. Time tries all things, however, even unanimous opinions, as the sequel proved. The tennis-lawn, mown yesterday, carries an inch crop which has sprung up in the night, and all nature bursting with energy seems to advance by leaps and bounds. Who would imagine that the old Weeping Ash, which a few weeks since was bare, could make new weepers 4 feet 6 inches long, but the tape accounts for the record—if it is one. Even the common of its kind, and the laggard Walnuts, had all donned the green ere the weeper thought of waking up.

Roses and Sweet Peas fill the garden with fragrance. As for Roses, the buds of last night are big blooms this morning. How all have revelled in the heat, until it has become oppressive! No one looks at the sky until a flash and a reverberating crack of heaven's artillery is succeeded by a tropical downpour, and the electric disturbance rolls over and away. Again the sun pours down upon the reeking earth as the incense of a thousand scents ascends, and all sorts of creeping humble life venture forth for a spell. It is exhilarating, life-giving; and if ever a garden smiled, surely this one fairly laughed to-day in a Turkish bath atmosphere. An army of *bonâ-fides*, chiefly of the humble bee order, have visited the Poppies, from whose cups they have sipped—not wisely, but too well. Now they are tumbling about in them on their backs, making a sad hubbub in a kind of maudlin condition, and many will not go home till morning, if ever they reach it again. The shower, brief time as it lasted, has penetrated from 4 to 6 inches into fresh soil, whose surface is now dry again, and walks and drives look clean and bright.

Out with the Broccoli? Yes, and sow more Turnips. Never was such trouble with the latter, in spite of dustings, watering, and watching. Fleas and flies should be Turnip sick by this time. How time has flown! Here a coat, and there a basket appear planted to facilitate egress, and simultaneously with the knell of departing day comes a clattering of feet homeward bound. The youngest pair, last in this morning, prove their agility by being first out this evening. From our cottage the blue smoke curls up between the trees, and the cup that cheers awaits, which, being discussed, brings another ramble round, more planning and sundry small labours of love, to which add the pencilling of this brief retrospect to close an ideal summer's day.—INVICTA.

INDUSTRIAL SCHOOLS AND HORTICULTURE.

ON page 6 "A. D." makes some good suggestions as to the advisability of training a number of boys in industrial schools to become "valuable workers" in market gardens. That there is plenty of room for large contingents of trained workers is an indisputable fact, and the sooner this idea of training boys in a practical manner is more generally acted upon the better. Speaking as an employer of labour, I can truthfully assert that really useful young fellows are badly wanted, not merely in the vicinity of the Metropolis, but in the neighbourhood of other large towns. But we do not want men with a "fancy" training, such as they would get at botanical gardens and somewhat similar places. That sort of education would be a poor preparation for our line of business.

"A. D." and others interested in the question will be glad to learn that the idea of training youths to become skilled labourers in market and other gardens, has been anticipated in one direction at any rate. At Kingwood, near Bristol, there is a large and admirably conducted reformatory for boys, largely supported by voluntary subscriptions, and in connection with this grand institution there are about 30 acres of land. Nearly the whole of this is cultivated by spade labour, gangs of boys working daily under the supervision of experienced gardeners. This land, though very unpromising at first, has been gradually brought into good condition, and excellent crops of Peas, Beans, Potatoes, and winter vegetables are grown. From among the many boys employed, about twenty of the most promising have been selected and afforded the benefit of a course of lectures and demonstrations given by a man who happens to have some experience in both private and market gardens. The boys are encouraged to take notes, to ask questions, and will be verbally examined upon all that they have seen and heard.

All round Bristol market gardening is carried on in a spirited manner, and in spite of high rents and high wages is made to pay. An annual addition of strong active youths, with a fair knowledge of their work, to the ranks (all too limited) of men available, will be welcome to most of the proprietors of market gardens, and, personally, I should have no hesitation in employing the well-disciplined youths that leave Kingswood Reformatory.—VISITOR.



VANDA TERES.

MANY people objected to this plant in the old days on account of the straggling habit, but this is entirely done away with in the present-day method of cutting down and rooting once in two years, or even annually in some cases. By this means very good plants, having finely coloured blossoms, are produced, and their appearance is greatly enhanced. To grow them properly the sunny end of a tropical moist house is essential, as it is most important that the growth is not only quickly produced, but ripened, so to speak, as it proceeds.

ONCIDIUM CROESUS.

The pretty flowers of this little Brazilian species are again open, and it is always admired when well grown. The flowers occur on the horizontal scape, and these have reddish brown sepals and petals margined with yellow, the lip rich golden yellow with a large purple blotch in the centre. In many cases *O. longipes* is grown in place of *O. Croesus*, but they are quite distinct, and most authorities quote the latter as a variety of the former. Both are natives of Brazil, and thrive in a lightly shaded part of the Cattleya house.

ONCIDIUM OLIVACEUM LAWRENCEANUM.

This is a very beautiful Oncidium, and though like most others in the section to which it belongs it is not of the easiest culture, yet with care it may be induced to flower regularly for a few years at least under cultivation, and many instances of success over a long season are on record. Very like *O. cucullatum* in habit and shape of flowers, the sepals and petals are a deep olive brown, and the rosy tinted lip has a number of purple spots upon it. It is a native of New Grenada, inhabiting the highest mountain ranges, and found at an elevation of 13,000 feet. This makes a cool and moist régime necessary all the year round.

PHALENOPSIS LUDDMANNIANA.

There is no questioning the fact that this is not nearly so easily grown as are *P. amabilis* or *P. Schilleriana*, and as large plants are seldom imported it may be that it is not very long-lived in its native place. Fortunately, it is abundant and frequently collected, while in many places in this country it is well grown and freely propagated. The plants are rather dwarf, the leaves seldom reaching more than 8 inches in length, and the flower spikes that appear towards the upper part of the plant bear few blossoms.

The sepals and petals are rather bluntly lance shaped, white transversely lined with violet at the base, the bars being thicker and deep brown towards the tips. The lip is violet and purple, and the flowers last long in good condition. The warmest position in the East Indian house suits the plant best, and it will always thrive much better suspended than stood on the stage, no matter how near the glass the latter may be. The best and cleanest sphagnum must be used in growing it, this and charcoal or burnt clay sufficing for compost. When the spikes are strong and keep green after the flowers are past they may be left on, as occasionally young plants are produced at the joints, and these form a ready means of propagation.

RENANTHERA LOWI.

The fact of the immense spikes of this species bearing two different kinds of flowers is an interesting point. The upper part of the spike is wreathed with yellowish green flowers, spotted with bright red, those at the base being brown with red dots, and very much smaller than the others. No one should attempt to grow it without ample room, as it will soon fill an ordinary small Orchid house. Where there is plenty of heat and elbow room, as well as ample moisture, it grows like a weed. It is a native of Sarawak, where it was discovered by Sir Hugh Low about 1845.—H. R. R.

FEEDING ORCHIDS.

MUCH has been written respecting the feeding of Orchids, and whilst I will readily admit that in the case of terrestrial Orchids it is beneficial, with epiphytal ones I am not yet converted to the use of manures. I am strongly of the opinion that more Orchids die from the ravages of insect pests than from lack of energy. In the case of so-called bad doers, I am afraid it is a want of knowledge on our parts that we cannot successfully cultivate them for any length of time, and I do not think the manure will solve the problem. Let no one

think that I denounce the use of manures when properly applied, as I know well, to grow ordinary plants to perfection, it is a necessity. In the culture of Orchids, however, far more is to be done by careful observation of the different plants under our charge. No doubt the time will come when it will be known how to use and apply manures to orchidaceous plants, but to those in charge of valuable plants I would urge great caution, as I know that quite as good plants can be grown without as with it.

CYPRIPEDIUM ASHBURTONIÆ GIGANTEUM.

This is a highly coloured and gigantic variety of the old *C. Ashburtoniæ*, which was raised by Mr. A. J. Keeling in the collection of D. Drewett, Esq., of Riding Mill, Newcastle-on-Tyne, between *C. barbatum* and *C. insigne* Chantini. A plant of it was shown at the York Gala with a twin-flowered spike, and it was very much admired. The plant is a vigorous grower, and is, in fact, a most delightful and showy flower for a *Cypripedium*, and one to be recommended to any lover of this beautiful family. It thrives admirably in the cool intermediate *Cypripedium* house in the usual compost.

CATTLEYA GIGAS.

Undoubtedly this is the finest species known in the large *Cattleya* family, and one which gives the cultivator in many cases a large amount of trouble to flower it successfully. The whole secret of

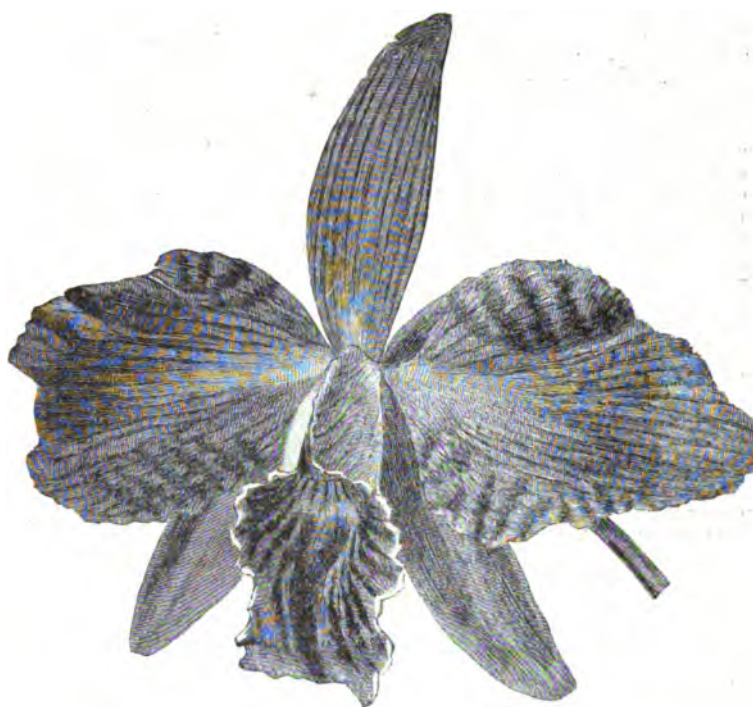


FIG. 18.—SOPHRO-CATTLEYA QUEEN EMPRESS.

(Bigeneric hybrid from *Sophranitis grandiflora* and *Cattleya Mossii*. First-class certificate R.H.S., July 25th. See page 83.)

success is to be summed up in the word attention. One is often recommended to rest them so harshly as to cause them to shrivel, others say they must have no water till their flower sheaths appear. The plants under my control are now bristling with sheaths, but they are never rested so severely as to cause them to shrivel, although as little water as possible is given during the dull cold days of winter, as I believe that the plants, when they are dried to such an extent, have not the strength to produce flowers. The plants are grown in pans in a warm *Cattleya* house, and brought down when in flower.

The best time to repot, or more properly speaking repan those that require it, is immediately after flowering, when it will be found that new roots are being made abundantly, keeping them on the dry side afterwards till they are thoroughly established. As regards compost, I prefer the peat broken up, say, for the larger specimens about as large as a duck's egg, with all the fine shaken out, mixed with one-third of live sphagnum moss; for the smaller plants the peat may be in smaller lumps, and a little more moss used. It is difficult to find a place to suit every plant where different families are grown in the same house, but a fairly light position should be secured for *C. gigas*. They must, however, be shaded from the direct rays of the sun, and air should be given them liberally when the outside condition and the temperature of the house will allow. The atmospheric moisture must be abundant whilst they are in active growth, as I believe they have the power to imbibe a large amount of moisture through the leaves and roots.—J. BARKER, *Hessle*.

COLOURS OF FLOWERS—A COLOUR DICTIONARY.

WHEN on the premises of one of our local printers recently I was shown some portions of a dictionary of colours in process of preparation. The author, Mr. B. W. Warhurst of Chelsea, who is not at all unknown to horticulture, has very kindly, at the instigation of my friend the printer, sent me a copy, and a very useful book it is. Whilst specially prepared for philatelists, certainly the illustrations of some fifty colours have great value for florists who find considerable difficulty in determining colours in flowers, as these are so varied and so mixed that clear explanation is most difficult. Then it so often happens that the colours of the same flower are variously described, not only in the press, but in trade lists, and the public is in consequence much confused. A colour map, as set out very much like a large flower, having six petals, the dominant selfs being red, blue, and yellow, and then ranged about them a number of diverse colours, made up of combinations, and such as are common in flowers, is very helpful. In addition the whole of the fifty colours described are shown, although for florists it would have been better had each one been in block form rather than as a large stamp illustrated. Mr. Warhurst has endeavoured to reduce to something like order colour descriptions which are now very confusing. Of course colours on paper have not that fire or brilliancy they display on flower petals, but the ground tints are provided, and having a clear apprehension as to the real colour of the base the rest should not be difficult to describe.—A. D.

[Some years ago Mr. Warhurst was a successful exhibitor at the shows of the R.H.S. at South Kensington, and his "Ben's Boiler" and an excellent method of glazing won the high approval of the Judges. His physical afflictions have for some years been so great as to practically confine him to his room, though his mental activities appear to have undergone no abatement. He has, as an ardent philatelist, been giving close attention to the subject of colours, their description and composition, and would evidently like, with the aid of botanists, horticulturists, and artists, to formulate easily comprehended names for the several hues that are now variously described. His book, of which we have received a copy, is well worthy of study by young (and old) gardeners and others, and we think they will not find another like it for half a crown. On the important, but much confused, subject of the colours of flowers we take an interesting extract from Miss Jekyll's beautiful book, "Wood and Garden," which we have previously noticed in the *Journal of Horticulture*.]

I AM always surprised at the vague, not to say reckless, fashion in which garden folk set to work to describe the colour of flowers, and at the way in which quite wrong colours are attributed to them. It is done in perfectly good faith, and without the least consciousness of describing wrongly. In many cases it appears to be because the names of certain substances have been used conventionally or poetically to convey the idea of certain colours. And some of those errors are so old that they have acquired a kind of respectability, and are in a way accepted without challenge. When they are used about familiar flowers it does not occur to one to detect them, because one knows the flower and its true colour; but when the same old error is used in the description of a new flower it is distinctly misleading.

For instance, when we hear of golden Buttercups we know that it means bright yellow Buttercups; but in the case of a new flower, or one not generally known, surely it is better and more accurate to say bright yellow at once. Nothing is more frequent in plant catalogues than "bright golden yellow," when bright yellow is meant. Gold is not bright yellow. I find that a gold piece laid on a gravel path, or against a sandy bank, nearly matches it in colour; and I cannot think of any flower that matches or even approaches the true colour of gold, though something near it may be seen in the pollen-covered anthers of many flowers. A match for gold may more nearly be found among dying beech leaves, and some dark colours of straw or dry grass bents, but none of those when they match the gold are bright yellow. In literature it is quite another matter; when the poet or imaginative writer says "a field of golden Buttercups," or "a golden sunset," he is quite right, because he appeals to our artistic perception, and in such case only uses the word as an image of something that is rich and sumptuous and glowing.

The same irrelevance of comparison seems to run through all the colours. Flowers of a full, bright blue colour are often described as of a "brilliant amethystine blue." Why amethystine? The amethyst, as we generally see it, is a stone of a washy purple, and though there are amethysts of a fine purple, they are not so often seen as the paler ones, and I have never seen one even faintly approaching a really blue colour. What, therefore, is the sense of likening a flower, such as a Delphinium, which is really of a splendid pure blue colour, to the duller and totally different colour of a third-rate gem?

Another example of the same slip-slop is the term flame coloured, and it is often preceded by the word "gorgeous." This contradictory

mixture of terms is generally used to mean bright scarlet. When I look at a flame, whether of fire or candle, I see that the colour is rather pale yellow, with a reddish tinge about its upper forks, and side wings often of a bluish white—no scarlet anywhere. The nearest approach to red is in the coals, not in the flame. In the case of the candle, the point of the wick is faintly red when compared with the flame, but about the flame there is no red whatever. A distant bonfire looks red at night, but I take it that the apparent redness is from seeing the flames through damp atmosphere, just as the harvest moon looks red when it rises.

And the strange thing is that in all these cases the likeness to the unlike, and much less bright, colour is given with the air of conferring the highest compliment on the flower in question. It is as if, wishing to praise some flower of a beautiful blue, one called it a brilliant slate-roof blue. This sounds absurd, because it is unfamiliar, but the unsuitability of the comparison is scarcely greater than in the examples just quoted.

It seems most reasonable in describing the colour of the flowers to look out for substances whose normal colour shows but little variation—such, for example, as sulphur. The colour of sulphur is nearly always the same. Citron, lemon, and canary are useful colour names indicating different strengths of pure pale yellow, inclining towards a tinge of the palest green. Gentian blue is a useful word, bringing to mind the piercingly powerful hue of the Gentianella. So also is turquoise blue, for the stone has little variety of shade, and the colour is always of the same type. Forget-me-not blue is also a good word, meaning the colour of the native water Forget-me-not. Sky blue is a little vague, though it has come by the "crystallising" force of usage to stand for a blue rather pale than full, and not far from that of the Forget-me-not; indeed, I seem to remember written passages in which the colours of flowers and firmament were used reciprocally, the one in describing the other. Cobalt is a word sometimes used, but more often misused, for only watercolour painters know just what it represents, and it is of little use, as it so rarely occurs among flowers.

Crimson is a word to beware of; it covers such a wide extent of ground, and is used so carelessly in plant catalogues, that one cannot know whether it stands for a rich blood colour or for a malignant magenta. For the latter class of colour the term amaranth, so generally used in French plant-lists, is extremely useful, both as a definition and a warning. Salmon is an excellent colour-word, copper is also useful, the two covering a limited range of beautiful colouring of the utmost value. Blood-red is also accurately descriptive. Terra-cotta is useful but indefinite, as it may mean anything between brick-red and buff. Red lead, if it would be accepted as a colour word, would be useful, denoting the shades of colour between the strongest orange and the palest scarlet, frequent in the lightest of the Oriental Poppies. Amber is a misleading word, for who is to know when it means the transparent amber, whose colour approaches that of resin, or the pale, almost opaque, dull-yellow kind? And what is meant by coral-red? It is the red of the old-fashioned dull scarlet coral, or of the pink kind more recently in favour.

The terms bronze and smoke may well be used in their place, as in describing or attempting to describe the wonderful colouring of such flowers as Spanish Iris, and the varieties of Iris of the *squalens* section. But often in describing a flower a reference to texture much helps and strengthens the colour word. I have often described the modest little Iris *tuberosa* as a flower made of green satin and black velvet. The green portion is only slightly green, but is entirely green satin, and the black of the velvet is barely black, but is quite black velvet like. The texture of the flower of *Ornithogalum nutans* is silver satin, neither very silvery nor very satin like, and yet so nearly suggesting the texture of both that the words may well be used in speaking of it. Indeed, texture plays so important a part in the appearance of colour surface, that one can hardly think of colour without also thinking of texture. A piece of black satin and a piece of black velvet may be woven of the same batch of material, but when the satin is finished and the velvet cut, the appearance is often so dissimilar that they may look quite different in colour. A working painter is never happy if you give him an oil colour pattern to match in distemper; he must have it of the same texture, or he will not undertake to get it like.

What a wonderful range of colouring there is in black alone to a trained colour eye! There is the dull brown black of soot, and the velvety brown black of the Bean flower's blotch; to my own eye I have never found anything so entirely black in a natural product as the patch on the lower petals of Iris *iberica*. Is it not Ruskin who says of Velasquez, that there is more colour in his black than in many another painter's whole palette? The blotch of the Bean flower appears black at first, till you look at it close in the sunlight, and then you see its rich velvety texture, so nearly like some of the brown velvet markings on butterflies' wings. And the same kind of rich colour and texture occurs again on some of the tough, flat, half-round funguses, marked with shaded rings, that grow out of old posts, and

that I always enjoy as lessons of lovely colour-harmony of grey and brown and black.

Much to be regretted is the disuse of the old word murrey, now only employed in heraldry. It stands for a dull red purple, such as appears in the flowers of the Virginian Allspice, and in the native Hound's-tongue, and often in seedling Auriculas. A fine strong-growing border Auricula was given to me by my valued friend, the Curator of the Trinity College Botanic Garden, Dublin, to which he had given the excellently descriptive name "Old Murrey."

Sage-green is a good colour word, for, winter or summer, the Sage leaves change but little. Olive-green is not so clear, though it has come by use to stand for a brownish green, like the glass of a wine bottle held up to the light; but perhaps bottle-green is the better word. And it is not clear what part or condition of the Olive is meant, for the ripe fruit is nearly black, and the tree in general and the leaf in detail are of a cool grey colour. Perhaps the colour word is taken from the colour of the unripe fruit pickled in brine, as we see them on the table. Grass-green anyone may understand, but I am always puzzled by apple-green. Apples are of so many different greens, to say nothing of red and yellow; and as for pea-green, I have no idea what it means.

I notice in plant lists the most reckless and indiscriminate use of the words purple, violet, mauve, lilac, and lavender, and as they are all related, I think they should be used with the greatest caution. I should say that mauve and lilac cover the same ground; the word mauve came into use within my recollection. It is French for mallow, and the flower of the wild plant may stand as the type of what the word means. Lavender stands for a colder or bluer range of pale purples, with an inclination to grey; it is a useful word, because the whole colour of the flower spike varies so little. Violet stands for the dark garden Violet, and I always think of the grand colour of Iris reticulata as an example of a rich violet-purple. But purple equally stands for this, and for many shades redder.

Snow white is very vague. There is nearly always so much blue about the colour of snow, from its crystalline surface and partial transparency, and the texture is so unlike that of any kind of flower that the comparison is scarcely permissible. I take it that the use of "snow white" is, like that of "golden yellow," more symbolical than descriptive, meaning any white that gives an impression of purity. Nearly all white flowers are yellowish white, and the comparatively few that are bluish white, such, for example, as *Omphalodes verna*, are of a texture so different from snow that one cannot compare them at all. I should say that most white flowers are near the colour of chalk, for although the word chalky white has been used in rather a contemptuous way, the colour is really a very beautiful warm white, but by no means an intense white. The flower that always looks to me the whitest is that of *Iberis sempervirens*. The white is dead and hard, like a piece of glazed stoneware, quite without play or variation, and hence uninteresting.

CYCLAMEN PERSICUM.

A WELL grown and well flowered collection of Cyclamens is always admired and usually looked upon as a good test of a gardener's ability. Nor is there any doubt that to produce them in the very best form requires skill and care, and these provided there is nothing really difficult in their culture. Those growers who are in the habit of priding themselves upon the production of a few fairly respectable plants, should take a look in at some of the large market growing establishments about the metropolis and see the way the plants are treated in their thousands, and note what a fine specimen each individual plant is.

From repeated observations in private gardens I am convinced that the present month is the period when many Cyclamens go wrong. The plants from seeds are given too much heat and too little shade, while those that have flowered once are treated as though they were of no further use, absolutely neglected in fact. In some cases they are turned outside and exposed to the full strength of the midsummer sun, very scantily supplied with water, and left to shrivel and lose their foliage, upon the proper maturation of which next season's crop of flowers largely depends.

I never take my plants from under glass, but allow them, after they have finished flowering the first season, to ripen their foliage slowly and naturally, keeping the roots a little drier than when they had the dual strain of flower and foliage upon them, but not practising anything in the way of drying off. As soon as possible after the plants have completed their growth they are repotted, using the same sized pots in some cases; in others, when a shift seems desirable, using a couple of sizes larger. The best compost is free working fibrous loam, with a fourth of peat or leaf mould and a similar quantity of well dried cow manure, or its equivalent in a good artificial fertiliser. Sand is added if the texture of the loam requires it.

After potting, the plants must not be hurried into starting again by applying fire heat, but kept a little on the dry side at the roots and

allowed to break naturally when they seem inclined. This treatment is the surest method of producing the fine handsome foliage that is so much admired as a set off to the flowers. A damp atmosphere is necessary in all cases and at all times except when the flowers are open, a slightly drier state then helping to conserve the blossoms. This is an important point, neglect of which is especially harmful to young vigorous seedlings, leading to insect attacks and crippling the foliage. Should insects of the thrips or aphid order put in appearance, as they will do sometimes under the best of treatment, lose no time in fumigating the house. The best kinds of vaporising and fumigating material, used according to the maker's directions, are practically harmless to Cyclamens.

For growing fine Cyclamens no structure can compare with a rather narrow span-roofed house, a central walk and side benches being provided. Here the plants obtain ample light during winter, while in summer they are easily protected from sun by blinds or fixed shading, the former for preference. Though the advice to sow thinly has been repeated times out of number, it is still as necessary as ever, the best plan being to dibble the seed $1\frac{1}{2}$ inch apart. —H. R. RICHARDS.

ANEMONES.

THERE are among the Anemones or Windflowers some of the most pleasing border flowers. They give considerable variety and vary much in time of flowering. While some few do better in the rock garden than anywhere else, nearly all may be grown in good, well drained soil in the border. *Anemone alba*, which is rather dwarfer in habit than the well-known *A. sylvestris*, is a pretty species not at all unlike the other in general appearance. It has white flowers and grows about 6 inches high. It comes from Siberia and the Crimea. It can be grown in loam. *A. alpina* and the variety *sulphurea* are both pretty Windflowers, which are a little fastidious in their ways. In some cases they thrive well either in borders or rockwork, while in other gardens they pine away. *A. alpina* is generally white, and *sulphurea* pale yellow. They come from the slopes of the mountains of Central Europe. According to another authority they are also found in the Rocky Mountains of North America. They appear to like a good soil and a rather damp place. In all probability the want of moisture is the common cause of failure.

Anemone, or *Hepatica angulosa*, is the large-flowered *Hepatica* from Transylvania, whose beautiful sky-blue flowers are much larger than those of the common *Hepatica*. There are now several varieties, but not many of these are as yet in commerce. There are a deep-coloured large-flowered form, one with pale flowers, one rose coloured, and one white. Some stocks of this pretty flower are shy in their flowering. It does fairly well in a half-shaded situation in good soil. One need hardly commend the beautiful and well-known *A. Hepatica*. *A. apennina* is one of the most valuable of the dwarf Anemones; it comes from South Europe, but is perfectly hardy, and a reliable bloomer in half-shady places in light soil. The flowers are bright sky-blue, and the whole plant is not more than 8 or 9 inches high as a rule; it flowers in spring. White and rosy varieties are also found.

A. blanda is an earlier bloomer than the foregoing, but is not nearly so easily established, nor does it flower so freely as *A. apennina*. It is found to do better on a stiff soil than on one of a lighter character. It comes from South Europe and Asia Minor; there are white flowered plants, with some pale and dark blue flowered varieties as well. Both *A. blanda* and *A. apennina* are increased by division of the tubers.

A. coronaria, the Poppy or Crown Anemone, is one of our most beautiful flowers of spring and early summer, and will, in mild seasons, even flower throughout the winter. It grows from 6 to 9 inches high, and presents much variety of colour from white to rose and scarlet and purple and blue, with both single and double flowers. It was a favourite with the old florists. If left in the ground and not lifted, dried, and replanted the Poppy Anemone is apt to deteriorate, and the tubers to decay. A stock may, however, be readily raised from seed. The most popular strain is that known as St. Brigid's, from which many fine flowers are produced. Planting should be done in September, or as soon as possible after.

Anemone fulgens is one of the most brilliant Windflowers we have, but it is, at the same time, the most erratic in its blooming. In some gardens it gives no satisfaction because of not flowering, while in others it is lovely with its bright scarlet blooms. As a rule it flowers fairly well the first season after being procured. It must be said that in a good number of gardens it blooms freely without any particular treatment, but with the writer it has so far proved unsatisfactory, except in a hot, dry, sunny place. It is increased by division or seeds. It grows about a foot high, and there is a double form.

A. baldensis is a charming white flowered species from Switzerland. It is said to be only 6 inches high, but with the writer grows taller. Shady rockeries are recommended for this plant, but one does not find that shade is necessary. There is a variety shaded with blue. *A. baldensis* may be increased by seeds or division. *A. alba* is not a particularly choice species. It has yellowish white flowers like those of a large *A. sylvestris*, but much less pleasing.

The autumn Japanese Anemones, *A. japonica* and its varieties, are indispensable to every garden. It is almost needless to expatiate upon its merits, or to say much about its cultivation, except that it grows much more vigorously in a rather strong soil than in a light one. What is known as the type is deep pink. The white variety, *A. j. alba*, is very

beautiful. There is also also the pretty *A. j. hybrida* or *elegans*, with pleasing flowers lighter in colour than those of the type. In recent years some exceedingly beautiful varieties have been raised. Of these may be mentioned Lord Ardilaun, Lady Ardilaun, Beauté Parfaite, Coupe d'Argent, couronne virginale, Profusion, Reine Charlotte, rosea superba, Vase d'Argent, and Whirlwind.

A. narcissifolia is a pretty plant for the border, with its pleasing white flowers. It grows about a foot high, and does well in a rather light soil. The Wood Anemone—*A. nemorosa*, with its varieties—makes a pleasing border flower, and does well for carpeting beds or borders in which are other plants. There are several varieties, of which may be named *A. n. flore-pleno*, with double flowers; *A. n. bracteata*, with the flowers set in broad green bracts; *A. n. rosea fl.-pl.*, *A. n. cœrules.*, and *A. n. Robinsoniana*, with a few varieties not yet in commerce. *A. palmata* is better adapted for the rock garden than for the border.

A. patens, with its variety *Nuttalliana*, may be grown in the border. These are about a foot high, and have purple or yellow flowers. *A. pulsatilla*, which likes a dry calcareous soil, is a well known plant with violet-purple flowers, growing from 6 to 12 inches in height. *A. pratensis* resembles it considerably, but has smaller flowers, which are pendulous, and are dark purple in colour. *A. ranunculoides* and *A. r. pallida* are pretty little yellow Windflowers suitable for carpeting shady or half shady borders of light soil.

A. rivularis is rather pretty when not too strongly grown, but in very rich borders it is liable to become too tall and coarse. When not too strongly grown it forms a pretty plant in May with its white flowers with purple anthers. *A. sylvestris* is a beautiful early flowering white Windflower, which looks well either in a border or on a rockery. The flowers are drooping in their habit, and are produced on stems from 6 to 18 inches high. It is a little peculiar in its ways, as in some gardens it can hardly be induced to grow, while in others it rambles like a weed. *A. hortensis* or *stellata* is best known by the fine variety named *fulgens*, whose vivid scarlet flowers are so brilliant in the border in spring. It is already spoken of separately as if it were a species, which some appear to have held. It is generally sold simply as *A. fulgens*. *A. stellata* is variable, and flowers of several colours and shades are found among the plants.—N. B.

BIRMINGHAM GARDENERS' ASSOCIATION.

THE annual outing of this Association took place on Wednesday, the 19th inst., when about seventy of the members and lady friends paid a visit to Woburn Abbey and the Experimental Fruit Farm at Ridgmont, by the kind permission of the Duke of Bedford. Professor W. Hillhouse, the President of the Association, accompanied the party. Woburn Sands was reached, via Bletchley, about ten o'clock, and brakes conveyed the party to the Abbey. The drive was most interesting and enjoyable, and afforded an ever changing panorama of rich arboreal and other scenery. Especially interesting were views of the deer, the glimpses of the kangaroos, zebras, and other exotic animals, as well as the numerous species of aquatic birds, inhabiting the series of large ponds bordering the carriage drive. Arriving at the Abbey, the party was at once taken charge of by Mr. Phillips, one of the estate officials, and conducted through the picture galleries, the gallery of splendid marble statuary, and the large collection of all kinds of wild animals' heads and horns. An object of much admiration was the Three Graces, executed in marble by Canova, at a cost of £15,000.

Considerable time was spent in roaming about the 60 acres of well kept pleasure grounds, admiring some of the most ancient and richest arboreal scenery in the United Kingdom, and the broad slopes and stretches of well-mown green turf. The noble Cedar of Lebanon and majestic Oaks riveted the attention of the visitors. The "Abbot's Oak" was pointed out; it is said to be the tree on which the last abbot of Woburn Abbey was hung for his denial of the supremacy of King Henry VIII. Another object of interest, too, was the prostrate dead Deodar Cedar, cut down by Mr. Gladstone when on a visit to the duke. In front of the south façade of the abbey is the somewhat curiously laid out scroll flower garden, with its edging of dwarf Box and white sand paths—bicolor and other Pelargoniums, and tuberous Begonias were the chief occupants. Time would not allow of a visit to the kitchen gardens.

Early in the afternoon the brakes conveyed the party to Ridgmont through charming sylvan scenery, and including nearly two miles of the tortuous double lined stately Elm avenue, where the visitors were met by Mr. S. Pickering and Mr. Lewis Castle, and at once entertained to a substantial cold luncheon. Mr. Pickering conducted the visitors over the fruit farm, and at various points gave particulars of the experiments and modes of cultivation of the fruit trees.

After partaking of the reinvigorating tea and a rest, the visitors proceeded to the closely adjoining railway station at Ridgmont, en route for Birmingham, after one of the most interesting and instructive outings the members of the Association had experienced.—W. G.

—EXETER GARDENERS' OUTING.—The Devon and Exeter Gardeners' Association recently held its annual outing. In brakes they passed Heavitree, and arrived at about a quarter-past ten at Strettle Raleigh, the residence of H. M. Imbert-Terry, Esq., who showed the members his fine collection of Conifers, and added to his kindness by entertaining the party to lunch. A drive to Ottery St. Mary was followed by one to Sidbury Manor, the residence of Sir Charles Cave, Bart. Here the head gardener, Mr. J. L. Reynolds, escorted them through the excellently kept glass houses, and the well-kept grounds.



ROSES AT KEW.

THE last ten years have been prolific in changes for good in the different departments at Kew, and nowhere is this more apparent than outside. Up to that time little was done to adorn the lawns and grounds with showy flowering plants. Scientific collections of plants were maintained, each in its own place, and if a bed or clump were required elsewhere, as a rule the common Laurel or Rhododendron was used. Now all this is changed; the collections are kept up scientifically as before, but in the case of any specially good thing one or more beds are made of it, in addition to the collection plant. By skirting the lawns and shrubberies with these masses of showy plants, and by replacing Laurel clumps with flowering shrubs, the gardens have been rendered infinitely more useful, beautiful, and pleasant.

Apart from other plants, the progress made in the above mentioned time with the Rose is remarkable. Up to that period the only recognised Rose garden was the collection of species near the Pagoda; these with a few clumps of species and varieties about the grounds constituted the whole of the Kew Roses. Now Roses are found everywhere, and during the whole of the summer, and more particularly in June and July, make one of the chief attractions of the place, for coming in as they do when the beauties of the Azalea and Rhododendron begin to wane, they make worthy successors to those brilliant-coloured, free-flowering plants.

For ease they may be divided up in four sections, No. 1 being represented by the bulk of the garden varieties, Teas and Hybrid Perpetuals; No. 2 the collection of species and botanical varieties on the west side of the broad vista near the Pagoda; No. 3 really good flowering species and varieties, principally climbing, in the new Rose garden near the Pagoda; No. 4 species and varieties used in beds, clumps, and on pillars in other parts of the grounds.

Possibly to many gardeners the Roses usually met with in gardens—Teas and Hybrid Perpetuals—have most attractions. These are represented at Kew by a number of the best varieties of each section. They are to be found occupying beds which extend from the pond near No. 1 museum along the north end, west side, and south end of the Palm house. Both standards and dwarfs are to be seen, and in most instances each variety is represented by a bed. The standards consist of fifty-two small beds, three plants of one variety being planted in each. Some of the most conspicuous are Duke of Edinburgh, Prince Camille de Rohan, Merveille de Lyon, Ulrich Brunner, White Baroness, La France, Magna Charta, and Marchioness of Lorne. The dwarfs consist of about fifty beds, each containing from eighteen to twenty-four plants, one variety, as a rule, being grown in each bed. At present they are at their best, and make a fine show. The Teas are represented by many good varieties, among them being Bridemaid, Madame Eugène Resal, Viscountess Folkestone, Princess de Sagan, and many others. Of Hybrid Perpetuals La France, Mrs. J. Laing, Ulrich Brunner, Captain Christy, and Glory of Chesham are very fine. All these beds have an effective undergrowth of Violas.

The second group—i.e., collection of species—is on the west side of the vista, close to the Pagoda, and is contained in a long wide bed. A large number of species and botanical varieties are comprised in this collection, each sort being represented by a good single specimen or a group. These are full of interest, both when in flower and later on, when almost every plant is laden with bright-coloured fruit.

The third group, as before stated, consists of a large number of the best of the species for flowering, and good varieties growing in the new garden, near the Pagoda. It was a happy idea when this Rose garden was first thought of, for it has transformed an old gravel pit, which four years ago was about the most unsightly spot in the gardens, into one of the loveliest, for where once all was a barren waste, is now greenery and flowers. To effect this change the sides of the cutting were terraced and bays made, these terraces and bays all being formed with good soil, kept in position by facing the terraces with large tree roots. The whole now forms a long valley, with a broad central and two side grass walks. As a brilliant effect was the object in view, large masses of the different types were planted, each bay or terrace being planted with one sort. The most striking masses are Mrs. Anthony Waterer, spinosissima var. altaica, lutea, hispida, Fellenberg, Flora, Carmine Pillar (a fine group), setigera, Wichuriana, a group of rugosa hybrids, and an immense group of Crimson Rambler, the whole hedged in by multiflora and other strong-growing species, while in the crevices between the butts small growing vars., such as White Pet, are planted. About the middle of July the group of

Crimson Rambler will be a magnificent sight, as every shoot is smothered with fine trusses of buds. The group of rugosa hybrids is well worth anyone's attention, many of them being very pretty. Two of the newer ones are rugosa \times Général Jacqueminot, a very bright crimson single; and Wichuriana \times rugosa, a dwarf pink flowered variety, with foliage intermediate between the two species, and flowers 3 inches across.

The last section, consisting of groups planted about the grounds, contains many good Roses. Near the herbaceous ground a walk is lined with climbing varieties on poles and chains, making a perfect garland of flowers. Some of the varieties used are Flora, Ruga, and Blairi No. 2. Along one side of a continuation of the same walk pillars of Roses and Ivy are alternated; some of the most conspicuous Roses are setigera, The Garland, Crimson Rambler, Félicité Perpetué, Reine Olga de Wurtemberg, and others. Near the Orchid houses a large mass of the double white hybrid of rugosa Blanc Double de Coubert makes a charming picture. In other places Penzance Briars are lovely, a thick hedge 18 inches high being smothered with flowers, while beds of Lady Penzance and Anne of Gierstein are masses of colour. Near the ferneries a large plant of the fragrant *R. moschata* rises to a height of nearly 20 feet, and is smothered with large trusses of whitish flowers.

Near the temperate house two beds of Grace Darling and Gloire de Dijon are masses of bloom, and are a good recommendation for this kind of treatment, at any rate for these two varieties. These, with beds of Fellenberg, Carmine Pillar, a pink multiflora hybrid, multiflora, arvensis, and rugosa in many places, with tender varieties on the walls, make all parts of the gardens look gay, and anyone visiting Kew at the present time cannot fail to be pleased with the beauty and great variety of Roses to be seen.—W. D.

COMMENTS ON THE NATIONAL SOCIETY'S METROPOLITAN ROSE SHOW.

UNQUESTIONABLY "the shadow of a dark cloud" rested upon the National Rose Society's Exhibition, for I believe the thought that was uppermost in people's minds was the loss that we had all sustained by the death of that accomplished rosarian Mr. T. W. Girdlestone, for he was one who stood alone; his keenness of perception and strong independence had ever made itself felt at our National Show, and I do not think that two rosarians met together at the Palace whose first words were not about him.

I think probably that we have never had a Rose season—at least, in my recollection—that was so trying and perplexing to the exhibitor as the present one, and this was evidenced by both the extent and character of the flowers exhibited. Their whole character was moderate; there were no boxes that especially dwelt on one's memory; there were few flowers over which we could go into raptures, and draw the attention of others to them; and all this was the result of the extraordinary season through which we are passing. The lateness of the season decidedly handicapped the northern growers, few though they are in number; while other districts, even in the south, seem to have suffered from this cause also. It is difficult to account for the fact that Roses in the Leatherhead and Dorking districts were so late, and it was much to be regretted that such an enthusiastic grower and generous supporter of the Rose as Mr. Charles J. Grahame was by this means deprived of the opportunity of showing us what he could do.

There were, as I have said, few stands which seemed especially to attract one, and there were few Roses which stood out above their fellows. I think it was a matter at which all rosarians rejoiced, even those who entered into competition with him, that the veteran exhibitor Mr. B. R. Cant again carried off the challenge trophy, a feat which was seconded by his doing the same with the Jubilee trophy at Colchester, thus being the proud possessor of them both. The veteran himself, unfortunately, is now prevented by illness from taking any active part in exhibiting. I have ever maintained that he stands *facile princeps* when in good form; there is a refinement about his flowers, a correctness of taste in their arrangement, and an absence of all torturing of his Roses which have kept him in the proud position he has so long occupied, and one is glad to find that now that the old soldier can no more enter into the fray, his two sons keep up the honour of the house, and bid fair to maintain it against all comers. There is another Colchester firm—Messrs. Prior and Son—which is evidently intending to contest his honours with him; in fact, this year in the class for forty trophies it carried off the first prize, beating Mr. Cant and Messrs. Frank Cant & Co., who occupied second and third places.

A pleasant feature one must notice while writing of East Anglia was the prominent position occupied by the Rev. A. Foster Melliar and Rev. F. Page Roberts, though they had been so roughly used by the climate, that they talked of giving up exhibiting, and therefore one was glad to find the old ardour still survives, and that they were successful in carrying off prizes. Mr. E. B. Lindsell again showed himself to be the champion amateur Rose grower: his trophy stand was a very beautiful one considering the season, but I need hardly

say that I have seen many better exhibited by him, a fact which he himself was foremost in expressing.

Another noticeable feature in the Exhibition was the number of new exhibitors in the smaller classes, many of whom it is to be hoped in future years may be found competing in the higher classes; there is no doubt that the alteration effected by Mr. Charles J. Grahame's plan of classing exhibitors by the number of plants they grow has led to this result.

There is always an interest attached to the competitions for medal Roses, and while oftentimes there has been a question as to whether the medals have been rightly awarded, I do not think there is any doubt this year. In the amateurs' division the medal for the best H.P. was awarded to Mr. E. B. Lindsell for a fine bloom of François Michelon; that for the Hybrid Teas to Miss Langton for a grand bloom of Marquise Litta, and there was an evident expression of pleasure by those who knew him that she was so worthily carrying on the culture of the Rose which made her brother so prominent amongst the smaller growers. The medal for the best Tea was awarded to Mr. Tate of Leatherhead for the finest bloom of Princess Beatrice that I ever remember to have seen.

In the nurserymen's division the medal for the best H.P. was awarded to Mr. A. G. Green for a magnificent bloom of Mrs. John Laing. Mr. B. R. Cant carried off the medal for the best Tea with a fine bloom of Muriel Grahame, this proving itself to be a valuable and distinct variety. The best H.T. was Bessie Brown, won by Messrs. A. Dickson & Sons of Newtownards, a flower of their own raising, which gained the gold medal of the Society last year, when a very excellent rosarian said to me, "I think that is the best flower the Dicksons have ever raised."

The lateness of the season was somewhat favourable to the garden Roses, and some of the beautiful single varieties which are generally over at the time of this exhibition, greatly enhanced the beauty of the stands. This portion of the exhibition is evidently most attractive to visitors, and, as usual, in the nurserymen's class Messrs. Paul and Son of Cheshunt, and Messrs. Cooling & Son of Bath, ran one another very closely, though the former rightly had the foremost place. Amongst the flowers of the foremost selection, their beautiful single Roses Carmine Pillar and Royal Scarlet were pre-eminently beautiful, while Dawn is a charming addition. Then there were bunches of some high-coloured flowers, such as Gustave Regis, L'Idéal, and Ma Capucine, the latter still unrivalled. There were also other interesting flowers in the collection, but their full list has already been given in the Journal. In Messrs. Cooling & Sons, which was very tastefully arranged, there were fine examples of Marquise de Salisbury, very brilliant in colour; Dr. Grill, also very peculiar and bright in colouring; Mdle. Laurette Messimy, their gold medal garden Rose Purity, and fine examples of macrantha (a single white).

In this division the amateurs also showed well. Mr. Tate of Leatherhead was well first with good followers up in Mr. Orpen of Colchester and Mr. Campion of Reigate. The Rev. J. H. Pemberton also showed a bright display tastefully arranged.

I have not for years known an exhibition at the Crystal Palace at which there was such a dearth of absolutely new Roses; Roses of the exhibition type were entirely wanting, and while last year three gold medals were awarded, two of them for exhibition Roses, only one has been given this year, and that for a garden Rose, which is not literally new, as it has already been before the public for some months, and had received an award of merit from the R.H.S.; this was Messrs. Piper's very beautiful sport from Sunset, called by them Sunrise. Neither of the famous firms of Waltham Cross and Cheshunt exhibited any new exhibition Roses, while the Irish firm of Messrs. Alexander Dickson and Sons, who have been awarded so many medals for new seedling Roses, had not anything to exhibit. I have heard a very glowing account of the fine amount of seedling Roses they had in their nurseries, and was consequently the more disappointed at not seeing them. They, however, came well to the front with some of their former productions, securing the prize for any nine blooms of the best new Rose with fine examples of Bessie Brown, and in their stand for twelve distinct varieties of new Roses there were Ulster, Mrs. Ed. Mawley, Countess of Caledon, Daisy, and Tom Wood.

It is always a pleasant thing to attend a metropolitan show, for one is sure to meet with rosarians from all parts of the kingdom that one sees at no other time, although the pleasure is always mixed with a certain amount of sadness as we miss those who have been with us in former years. Both these feelings one had at the Palace this year. The probability that I shall attend another is doubtful, and so the meeting with so many kind friends was the more pleasing to me, and I have to thank those whom I met for the many kind expressions of friendship and goodwill made to me. Notwithstanding my infirmity I thoroughly enjoyed the show, and should it be the last it will leave a very pleasant memory behind it. I have seen the infant which I presented to the Rose world nearly a quarter of a century ago attain to the full stature of perfect manhood, and I can leave its future in the hands of those who have so ably attended to its wants.—D., Deal.



RECENT WEATHER IN LONDON.—Cooler air has come to the metropolitan area during the past few days, and there have been several local storms of more or less severity. Rain fell on Saturday and Sunday, and freshened vegetation; Monday was dull and dry, but Tuesday opened with warm sunshine, as did Wednesday; but on the latter day there was a pleasant breeze.

NATIONAL CHRYSANTHEMUM SOCIETY.—The annual outing of the members to Mentmore took place on the 17th. Dinner was served in a spacious marquee on the village green, under the chairmanship of Mr. P. Waterer, the Chairman of the Committee. The health of Lord Rosebery was drunk with enthusiasm, and Mr. J. Smith responded. The gardens and grounds, which are now very beautiful, were inspected, and after tea the party returned to London via Cheddington.

MALMAISONS AT BARFORD HILL GARDENS.—These popular flowers have been quite a feature at the above place during the last few weeks, and have been used by the hundred in a cut state, as they are favourite flowers with both Mr. and Mrs. C. A. Smith-Rylard. The plants are grown through the winter and spring in low, span-roofed houses, and are never coddled in the least, for Mr. R. Jones, the able gardener, is a firm believer in abundance of fresh air for Malmaisons. Ventilators and doors are kept open to their fullest extent, not only in summer, but often in winter and early spring, whenever the weather is favourable. To this fact, in conjunction with careful watering, Mr. Jones attributes his success.—VISITOR.

THE KEW LIBRARY.—Visitors to Kew Gardens will be delighted to learn that Mr. B. Daydon Jackson, the well-known bibliographer in botany, has just brought out an excellent catalogue of the splendid library at Kew. It contains over 750 pages, dealing with upwards of 15,000 separate entries of books or papers, besides numerous cross-references. This library was thrown open to the public in 1852, when Miss Bromfield presented to the gardens the botanical library of her famous brother, Dr. W. A. Bromfield. In the same year Sir William Hooker, the director, also presented his private library and herbarium. It was considerably increased in 1854 by another gift of a large number of books by the late George Bentham, F.R.S. Other valuable gifts have, from time to time, been received from other sources, and purchases have been made with occasional grants from the Bentham Trust.

VEGETABLE CROPS AND THEIR INSECT PESTS.—Whilst some of your contemporaries are making wide inquiries into the general condition of fruit crops, I would suggest that through your widely read paper invitations be offered to practical observers in all directions, especially those engaged in County Council inspection of cottage gardens and allotments, and therefore have unusually wide experience, to report as to the general condition of vegetable crops—and I would now limit the inquiry to ordinary vegetables—in relation to insect attacks. My own experience is not of a pessimistic nature, as generally in Surrey I have seen very little to complain of, whilst what may have been in evidence of insect presence was chiefly where soil was shallow and poor and indifferently cultivated. I have noted that generally both Parsnips and Celery plants so far have been very free from harm by the well known maggot. Parsnips I have seldom seen looking better. With Celery a few evidences of maggot has been seen here and there, but very slight. Onions have generally been very good, the maggot doing little harm. What is seen is evidently the product of the fungus, and that, too, exclusively on poor soils. The worst general crop is the Carrot. That, however, does not seem to have been harmed by the maggot, but rather by aphids. The Carrot suffered materially in the same way last year; doubtless the intense heat radiated from the soil, following on a cold spring, is the primary cause of the insect's presence. Now and then Carrots were excellent. Cabbages have evidently suffered more from drought than from caterpillar. There have been few evidences of the presence of this pest seen. In places Broad Beans have suffered from black dolphin, and Peas from thrips, but chiefly on very dry soils. With all these crops so much depends on thorough cultivation, as the weaker the plants are the more damage they suffer from their besetting foes.—A. D. [We shall be glad to receive notes, as suggested by our correspondent, from various parts of the country.]

A NEW DALSTON GARDEN.—The Earl of Meath opened the Albion Square Public Gardens at Dalston a fortnight ago. In the course of a few remarks he said the Albion Gardens made the hundredth open space which the Association had been instrumental in securing for the public enjoyment.

GWINLLANYDD YNYS PRYDAIN.—Though we cannot pretend to give an interpretation, easy as it may be to some of our readers, we can aver that no such heading as the above has hitherto appeared in the *Journal of Horticulture*. We find the mystic alphabeticals in a list of distinguished persons on whom honorary degrees were conferred at the Welsh Eisteddfod at Cardiff last week, one of the recipients being, as stated in the "Western Mail," Mr. A. Pettigrew, Castle Gardens, Cardiff "Gwinllanydd Ynys Prydain." We hope our friend will bear his honours (we had almost said burden) lightly over many happy years.

THE DURABILITY OF THE LARCH.—One of the many points in favour of the Larch is that its wood is very durable, even when quite young. Larch palings made of trees about twenty years old will last from fifteen to twenty years, whereas palings made from the wood of Scots Pine of the same age will only last six or seven years, and those made from Spruce Fir from eight to ten years. This durability in the case of the Larch renders it specially valuable for mining purposes, for which large quantities of it are annually employed. It is also in great request for railway sleepers, where its well-known durability stands it in good stead. One of its shortcomings is that it is difficult to season, as it is liable to bend and twist in drying.—("Irish Farmers' Gazette.")

AN ACACIA TREE IN FLOWER.—A correspondent writes from Crieff to the "Dundee Evening Telegraph":—"There is to be seen in the Comrie Road just now a large Acacia tree in full flower. I am well acquainted with the Acacia, having seen it growing in sheltered parts of most districts of Scotland. Notably there are some good specimens at Bridge of Allan, and there are quite a number in the Crieff district, but I have never before seen one in flower. Perhaps one or other of your correspondents may tell us if they know of an Acacia flowering freely anywhere in Scotland. The Acacia is a very beautiful tree, having leaves somewhat resembling in shape the leaves of the Mountain Ash, but of a more delicate green, and not serrated as are those of the Mountain Ash. The flower resembles the flower of the Laburnum in shape, but is of a most delicate pale white, and the individual blooms have all the appearance of Pea blooms, except that they are much smaller in size than ordinary white Pea blooms. The Comrie Road tree may perhaps be about forty years old, and about 40 feet in height. The Acacia is supposed to have been introduced into Britain from North America, and it is common enough in England, where there are many specimens; but in Scotland it is only grown in sheltered places like Crieff or Bridge of Allan. The oldest Acacia in Europe is said to be in the Jardin des Plantes in Paris, was planted in 1635, and is now about 75 feet high." [The Acacia is sufficiently often seen in flower in the South as to call for no special notice, but this is evidently not the case in Scotland.]

WOMEN IN FRUIT PRESERVING FACTORIES.—The Secretary of State for the Home Department has issued an order which says:—"Whereas the Factory and Workshop Act, 1878, contains a special exception to the effect that the regulations of the Act with respect to the employment of women shall not prevent the employment, in the non-textile factories and workshops or parts thereof and warehouses to which the exception applies, of women during a period of employment beginning at 6 A.M. and ending at 8 P.M., or beginning at 7 A.M. and ending at 9 P.M., or beginning at 8 A.M. and ending at 10 P.M., if they are employed in accordance with the following conditions, namely: (1) There shall be allowed to every such woman for meals during the period of employment not less than two hours, of which half an hour shall be after five o'clock in the evening; and (2) any such woman shall not be so employed on the whole for more than three days in any one week, nor for more than thirty days in any twelve months; and whereas it has been proved to my satisfaction that in the class of non-textile factories and workshops or parts thereof in which the washing of bottles for use in the preserving of fruit is carried on, it is necessary, by reason of press of work arising at certain recurring seasons of the year, and of the liability of the business to a sudden press of orders arising from unforeseen events, to employ women in the manner authorised by this exception, and that such employment will not injure the health of the women affected thereby: I by this order extend such special exception accordingly to factories or workshops in which the washing of bottles for use in preserving fruit is carried on."

METEOROLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1899. July.										
Sunday ..16	W.S.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday ..17	W.S.W.	68.9	58.4	78.9	53.5	—	65.9	63.5	59.7	44.3
Tuesday ..18	S.S.W.	69.1	61.6	77.9	50.5	—	66.5	64.9	59.8	42.9
Wednesday ..19	S.S.E.	72.9	60.8	81.1	51.9	—	66.2	63.9	59.8	44.1
Thursday ..20	E.S.E.	75.1	63.5	85.1	61.2	—	67.8	63.9	59.9	51.5
Friday ..21	W.	78.8	65.1	84.1	56.9	—	68.5	64.5	59.9	49.6
Saturday ..22	S.S.E.	72.6	64.9	86.2	61.9	0.06	69.2	64.9	60.1	56.5
		65.0	63.7	80.1	62.6	0.57	70.2	65.5	60.4	60.9
MEANS ..		71.8	62.6	81.6	56.9	Total 0.63	67.8	64.4	59.9	50.0

The weather during the week has been very hot, the temperature on five days exceeding 80°. Friday (the 21st) was the hottest day this year. Rain fell on the evening of the same day, and a heavy storm, accompanied by thunder and lightning, on the 22nd.

— THE RECENT HEAT.—Gardeners have found it difficult to endure the recent excessive heat, because their work must of necessity be done where exposure to the sun is considerable, and where also, because gardens are habitually enclosed, there is poor circulation, and the atmosphere becomes superheated. The soil also radiates heat excessively, so that during the warmest portion of the day the gardener's life has not been a happy or desirable one. Out in the open fields the agriculturist, if the sun be still hot, at least finds free air circulating, which does materially tone the heat. It is so difficult for us to change our methods in relation to garden labour, that generally we prefer to endure rather than make alterations that are sensible. An ordinary gardener's day consists of ten hours' work, exclusive of meals. Now, if instead of those hours in great heat, being from 6 A.M. to 5.30 P.M., would it not be so much wiser to work from 4 A.M. to 10 A.M., with half an hour abstracted for breakfast, and from 4 P.M. to 8.30, with half an hour allowed for tea? Then the hottest part of the day could be utilised by lying or sitting in the cool shade of trees, thus preventing great exhaustion. Of all persons gardeners should be the last to consume heating diets and excitable drinks in hot weather. Fruits and vegetables, with cold tea or toast and water, are the very best of foods. We do so much increase our sufferings from great heat by consuming products that serve as fuel, adding heat to the fire; whereas our object should be rather to use those that are cooling to the physical system.—OBSERVER.

— "FLORILEGIUM HARLEMENSE."—Number 10 of this splendid publication reaches us from the publisher, de Erven Loosjes, Haarlem, and is splendidly produced. The plates, three in number, represent Hyacinth Général Pélissier; Tulips Mon Trésor, Van der Neer and Rembrandt; and Anemones coronaria flore-pleno Leverrier, Rosette, and Sir Joseph Paxton. As usual, the descriptive letterpress is accurate and to the point.

— A DUBLIN NURSERY.—A chat with Mr. Canfield, manager to Messrs. C. Ramsay & Sons, Balls Bridge, is only productive of enjoyment; and it was recently my lot to accompany him through the various houses. I could not help stopping and admiring that free-flowering double white Fuchsia Molesworth, whilst Mrs. King looked charming. The Palm house brought thoughts of distant climes with its robust Kentias, Phoenixes, Latanias, and Cocos Weddelliana.—A. O'N.

— ROYALTIES IN BLOOMSBURY.—On the occasion of the opening of the new Alexandra Hospital Buildings in Bloomsbury by their Royal Highnesses the Prince and Princess of Wales on the 20th inst., a very handsome bouquet of Roses was presented to the Princess by Lady Katherine Howard. This bouquet was given by Messrs. Wm. Paul and Son of Waltham Cross, and consisted of buds and blossoms of the "Alexandra" Rose, a new buff coloured variety raised by Messrs. Wm. Paul & Son and named after the Princess by H.R.H. the Prince of Wales at the Royal Botanic Society's fête in June of last year. The bouquet was tastefully tied with a broad mauve coloured silk ribbon, which bore the words, "The Alexandra Rose," with the date in gold letters. The same firm also furnished a beautiful bouquet of Caroline Testout Roses for the Princess Victoria of Wales.

— GARDENING APPOINTMENTS.—Mr. William Swan, lately of Bystock, Exmouth, has been appointed head gardener to Sir Edward Clarke, Q.C., M.P., Thorncote, Staines, Middlesex. Mr. John Macdonald has been appointed gardener to Evelyn Heseltine, Esq., The Goldings, Great Warley, Brentwood, Essex.

— GARDEN PRODUCE ON THE G.E.R.—The Superintendent of the Great Eastern Railway states that the number of fruit and farm-produce boxes conveyed during the six months ended on June 30th, amounted to 79,000, as against 71,000 in 1898. This must be very encouraging to those engaged in the transit.

— THE VIRTUES OF THE TOMATO.—Recent investigations go to show that the Tomato possesses very considerable medicinal virtue. As a blood tonic the juice of the Tomato has been found productive of excellent results. During the recent war with Spain the Americans largely used an extract of Tomatoes as a health preservative among certain sections of their troops. The use of the Tomato in this connection was, according to an Irish contemporary, the outcome of some experiments specially made for the purpose under the authority of the United States Government.

— A CURIOUS EXPERIMENT.—The following extract from a daily paper has been sent to us, with the bracketed comment appended:—"Dr. Bra has isolated what appears to be the parasite of cancer. Examining fragments of diseased wood, particularly the wood of Apple trees, he found characteristic conidia of Nectria ditissima. These he 'cultivated.' They produced spores, and then cells, in every respect like the cells of the human cancer mushroom. Dr. Bra, wishing to try a crucial test, got leave from Government to inoculate trees of the forest of Meudon, near Paris, with cultures of human cancer. He chose trees far removed from any diseased ones. Six months later spots of dry rot appeared on the trees inoculated—Beeches, Maples, and Sycamores. An Elm died from the cancer so communicated. Other tests have given striking results. Dr. Bra does not conclude that animal and vegetable cancers are caused by one specific fungus, but he thinks a number of diseases of plants are extremely like diseases of animals." [Dr. Lambert Lock, one of the hon. surgeons of the Golden Square Throat Hospital, has, according to a Select Committee of the Pathological Society, proved that cancer is due to a particular injury to what is known as the basement membrane of mucous membranes and allied structures. By this injury he has produced cancer in some of the lower animals. Of animal cancer we profess no knowledge, but we have considerable experience of vegetable cancers or cankers, and have always found them set up by definite micro-organisms acting on the formative or cambial layer, and gaining access thereto by an injury to and through the cortical layers or bark. Nectria ditissima or Apple tree canker fungus invariably so acts, always gains an entrance to the cortical tissues of trees—Alder, Apple, Ash, Beech, Bird Cherry, Dogwood, Elm, Hazel, Maple, Lime, Oak, and Pear—through wounds, though young shoots and leaves may be infected by means of conidia (Tuberularia), and as co-spores—Nectria (Hartig's "Diseases of Trees," page 92). As the mycelium of canker fungus spreads in the cortical tissues of trees it produces innumerable extremely minute bodies (conidia), resembling bacteria, which from their action and setting up of a ferment break down the cortical tissues, effecting the almost complete decomposition of them, with the exception of the outer periderm or cuticular layers.—COMMENTATOR.]

NATIONAL DAHLIA SOCIETY.

A SPECIALLY convened meeting of the Committee met in the room of the Horticultural Club, Hotel Windsor, Victoria Street, E. Mawley, Esq., in the chair, supported by Dr. Masters, Messrs. J. Cheal, W. T. Frost, J. Burrell, R. Dean, F. Seale, R. Fife, S. Mortimer, A. H. Needs, J. T. West, Mist, and Wilkins, with the Hon. Sec., Mr. J. F. Hudson.

The Chairman, in a concise speech, alluded to the untimely end of their late President, Mr. T. W. Girdlestone, recording his personal knowledge of him for the past twenty years, and recalling all the good work he had done to improve the Dahlia, especially the single types; also the services he had ungrudgingly placed at the disposal of the Society for many years, finally moving a vote of condolence to Mrs. Girdlestone, his mother, and sisters.

A minute was also framed alluding to Mr. Girdlestone and the work he had accomplished for the Society. Mr. J. Cheal also alluded in appreciative terms to the work of the late President, and expressed a hope that some permanent memorial, either in the shape of a cup or medal, should be inaugurated to perpetuate his memory.

It was also resolved to hold a second exhibition at the Royal Aquarium, Westminster, on September the 19th and 20th, and an advance schedule was placed in the hands of those present, which, after a slight alteration in one class, was passed. It includes four classes for amateurs and the same number for nurserymen. The chief reason for holding a second show arises from the fact that many seedlings can be submitted at a later date than the Palace Show.

GUNNERSBURY HOUSE.

THE traveller who detrains at Kew Bridge and turns to the left from the station, passing very near to the thriving Brentford Market, would, unless he were "in the know," scarcely think that within a few hundreds of yards was one of London's handsomest estates. Such, however, is the case, for here is situated one of the entrances to Gunnersbury House and Gunnersbury Park. When once the excluding gate has been passed the pedestrian enters upon another and a fairer scene, in which the "busy haunts of men" are quickly forgotten, and the appreciative mind recognises plants and trees and flowers that charm the eye and cause surprise that such vegetation can thrive within the sound of Big Ben. The leaves have a freshness and the flowers a brilliance or softness of hue, as the case may be, that one, perhaps unconsciously, associates with places where the rumble of vehicular traffic and the shriek of the engine are sounds that come and go at distant intervals instead of continuing from day to day and week to week.

When that day comes the writer will have to tell of the charming grounds that were traversed ere Gunnersbury House came in view (fig. 19). That portion adjacent to Kew Bridge station is known as the Potomac, presumably after the North American river, which has been the centre of many a meeting between the red Indians and the whites in the days when the colonisation of America was in its infancy, and found food for writers like Fenimore Cooper, whose ready pens and fertile imaginations have woven interest and romance round conflicts that were brutal and degrading to all concerned in them. The Potomacs of the old and the new worlds are different scenes, and while the former may not fire the imagination as the latter did, it is to the average Englishman infinitely more interesting and attractive, especially if he happen to have horticultural proclivities. This reference must, however, suffice for the nonce.

Under the guidance of Mr. Hudson the imaginary "ring fence" of Gunnersbury House was crossed, and steps were straightway turned towards the glass department, which was known to contain produce



Photo by J. G. Gray.

Canterbury Road, Croydon.

FIG. 19.—GUNNERSBURY HOUSE.

Little as the beauties of this estate appear to be realised the domain is not new, though perforce it has changed with the times. In bygone days it sheltered royalty; indeed, it was the home for some considerable period of the Princess Amelia, who in the days of George III. was a renowned leader of society. Then the two mansions of Gunnersbury House and Park were one, whereas now they are separated, though both belong to the Messrs. de Rothschild. The process of removing the dividing wall and opening up the partition hedges is ever advancing, and the advantages are manifest to the visitor. The mansions and gardens still stand apart, and have separate staffs, and those with which we would deal particularly at this juncture are in the skilled hands of Mr. Jas. Hudson, V.M.H., while Gunnersbury Park is under the no less capable direction of Mr. G. Reynolds. It is fortunate, indeed, that these two gardeners have one common love—the garden—or the not too clearly defined line of division would often become the venue of arguments and strife. As it is, this does not occur; each is desirous of doing his utmost for continued peace, as it is only under conditions of perfect amity that the best interests of their employers can be insured. Some day it is hoped Gunnersbury Park may form the subject of an article in the *Journal of Horticulture*, for its attractions are rich and, happily, entirely distinct from those which characterise the charge of Mr. Hudson.

too seldom seen even in the gardens of the most affluent. These are the fruit trees in pots. There is no need to tell Journal readers of the superb fruits from these trees that have been from time to time exhibited by this talented grower; reporters have so often referred to them. But the splendid fruits have not the beauty of the trees that produced them. Fortunately when this visit was paid they were almost all carrying their luscious burden, and no more charming pictures could possibly be imagined. The unappreciative might perhaps see only the beauty of the fruits themselves, but the lover of horticulture sees equally as great attractions in the green of the substantial leaves, and the clean sound growths that form the basis of the fruitful tree. No better examples of excellent culture and sturdy health could be desired. Hundreds of trees in pots had one common peculiarity—namely, fruitfulness. It was not a solitary individual here and there that carried its tempting crop, but every one from that Cherry of 3 feet in height to yonder Peach which has a stature of from 8 to 10 feet.

"Which," it may be asked, "of the Peaches, Nectarines, Cherries, Plums, Figs, Pears and Apples, was absolutely the best example of high cultivation?" The answer must be, "There is no best where all are so good." The Cherries and the Plums have numerically a greater burden

than the Peaches and the Nectarines, but they are really in no way superior, as everyone expects that the small fruit will be more numerous than the large. Some trees are better than others, and probably the Nectarines are, generally speaking, superior to the Peaches, but this is not the result of variations in culture, but of inherent adaptability to this form of training. Regarding the trees as pictures simply, pride of place would in all probability be given by the majority of observers to the Cherries, but personally I must confess to the most intense admiration for the smooth, highly coloured fruits of the Nectarines on the branches clothed with bright green leaves. The Plums do not make such attractive trees—indeed their appearance is more severely utilitarian than either of the others, but from this point they possess very decided attributes. Some day Mr. Hudson must be induced to give to Journal readers the benefit of his experience in growing fruit trees in pots, both as regards

large number of visitors for a ball or other function at his London residence, some of these trees in fruit are placed in suitable positions, from which the guests may gather what they wish. This is a most attractive idea, and one can imagine the pleasure experienced in selecting a few Cherries from one tree, and a Peach or a Nectarine from another, that are actually growing in the room. Of course the pots themselves are cunningly obscured.

But there are other kinds of fruit and different forms of training that demand a word of reference. Figs for example are in great numbers, as an unlimited supply over the longest possible period is the desideratum. The efforts made must be acknowledged as most satisfactory when it is said that fruits are at command for nine months out of the year. Then the Vines speak eloquently of rude health in the stout



Photo by E. C. Porter.

The Mall, Kington.

FIG. 20.—NECTARINE LORD NAPIER AT GUNNERSBURY HOUSE.

the most suitable structures, the proper methods of procedure, and the best varieties for the purpose in view.

The houses at Gunnersbury have grown with the continued success of the experiment. By this is meant, that from small beginnings have sprung great results, as the trees at the outset were few in number and the accommodation comparatively limited. The results attained to were, however, so encouraging, that with the trees advancing in size and numbers the area of glass had to make commensurate progress, until now the sight is such as is not often seen, and will certainly never be forgotten by any beholder. As an example of what has been done, Mr. Hudson produced a photograph of a group of six trees of Early Rivers Nectarine, that last year produced seventy-four fruits. Unfortunately the photograph is not sharply defined, and could not be successfully reproduced, as it would have conveyed an excellent idea of the stature and form of the trees of that particular variety. In closing for the present this reference to the fruit trees in pots at Gunnersbury House, it may be interesting to note that when Mr. Leopold de Rothschild has a

canes, the large substantial leaves, and the compact bunches of good-sized, well coloured berries. The Peaches and Nectarines as cultivated in pots may be summed up as magnificent, and those grown in the more orthodox fan form on trellises under the roof-lights must be accorded the same adjective. These are no juveniles, but grand trees that bring each year with the regularity of the seasons immense crops of medium-sized, perfectly stoned, and highly coloured fruits.

Though it was not found feasible to give an illustration of the plants in pots, the fates were more propitious in respect of the planted-out specimens. One of these is represented in the photographic reproduction (fig. 20), and no fruit grower need wish to see a more pleasing spectacle. The variety is Lord Napier Nectarine, and the tree measures 24 feet by 13 feet. In 1895 it furnished a crop of 600 fruits, which is conclusive evidence of its excellent condition. If there be any reader who has a lingering doubt as to the health of the tree, he will be convinced with the knowledge that the average annual crop of fruits for the five years, 1894-98 was 450, and this year there would certainly be more than the

average; Mr. Hudson did not know the number when I saw the tree. The photographer (Mr. E. C. Porter, Ealing) is to be congratulated on the clearness of the picture, which must have been secured under difficulties. The house is one division of a long lean-to range with a centre structure that is much higher. The "snap" was taken by removing a pane or two of glass in this sufficiently high up to allow the operator to look down upon the Nectarines, and everyone will envy him such a splendid sight.

The central portion of the range just adverted to has become the home of the Banana, whose handsome leafage alone warrants its inclusion in any adequately heated structure that affords sufficient head room; while there is besides the splendid fruit, with which and the artificially ripened imported "fingers" there can be no comparison as regards flavour, as well as appearance. The Musas do not entirely fill the structure, but they, of course, require a very considerable amount of space. Its other occupants included some of those hybrid Water Lilies, for which Gunnersbury House is almost as much celebrated as it is for its pot fruit. They were a few of the tenderer ones included in the splendid collection, about which Mr. Hudson wrote so instructively and entertainingly in the *Journal of Horticulture* for August 25th and September 8th, 1898. As he then gave a list of the choicest in the collection they need not now be repeated, as the numbers can readily be referred to by those who have a file, or be obtained from the publisher by newer readers.

In addition to the orchard and other fruit houses, there are structures in which an extremely diversified collection of plants finds accommodation, and have their several requirements judiciously provided. For example, there was on a shelf in one of the pits a number of plants of the Indian Strawberry, a type that may be all well and good as a curiosity, but which did not appeal very strongly to the palate. *Incarvillea Delavayi* (figured at page 453, last vol.), was flowering grandly, while the superb stock of *Dendrobium formosum giganteum* retained a little of its past glory in the form of one or two flowers. The plants are in perfect health, and should maintain their reputation in succeeding years. These form one of the floral features of Gunnersbury House, and it may safely be affirmed that the *Hymenocallis* make another. The plants are immense, and rarely fail to provide a few of the chastely beautiful, delightfully fragrant flowers. The task of enumerating all the plants grown, either as curiosities or for the beauty of their flowers or foliage, would be no light one; but it is extremely easy to sum up the general condition of the stock, which, as a matter of fact, is most creditable, and must be satisfactory alike to Mr. Hudson and to all his assistants. The splendid *Marguerites* that have been seen at the Temple Show find a place in a corridor-like conservatory, as do some superb Cape Pelargoniums trained in fan form to occupy certain positions in the garden of the London house; they are splendid examples of patience in training for some definite object.

It has already been said that the grounds are very beautiful, but this will bear repetition. Not only are there several charming views, but the features formed by the Bamboo garden, with its promising plants and its healthy Lilliums, the beds of Japanese Maples, the lovely Water Lilies, are equally as interesting, and in some instances almost unique. A glimpse of the grounds from below the lake across the rising lawns to a corner of the mansion is shown in fig. 19, which is from a photograph taken by Mr. J. Gregory. Croydon, whose landscape pictures grow more and more popular as their merits become known. The view is an attractive one, and many more could be secured that, while being totally distinct from it, would be equally as charming in the eyes of all observers. Another very pretty corner, with which Mr. Hudson equipped me, was taken close to what is known as Princess Amelia's Archway, but it has failed to reproduce satisfactorily. It showed a portion of a splendid Judas Tree (*Cercis siliquastrum*) in full bloom, with circular beds having *Dracenas* in the middle, with the customary base of bedding plants. A beautiful old Rose-canopied walk must have provided a cool retreat during the days of tropical heat to which we have been subjected of late.

On all hands in the pleasure grounds and about the lawns there are flowering trees and shrubs which brighten their surroundings in no small degree. The Lilacs, *Rhododendrons*, *Weigelas*, *Laburnums*, and *Thorns* were, when this visit was paid, vying one with the other as to which should elicit the greatest admiration or diffuse the sweetest fragrance. Herbaceous flowers, too, are by no means neglected, as some immense borders near the mansion and contiguous to Mr. Hudson's house abundantly testify. And Dahlias, well it would be difficult to imagine such a grand collection on a private estate. Mr. Hudson, jun., though not a gardener, is enthusiastically enamoured of the Dahlia, and watches the several varieties with the keenness of the true florist. It will be remembered that Mr. J. F. Hudson, is the Honorary Secretary of the National Dahlia Society. But with the certain knowledge that many plants and flowers and trees have been omitted that in all respects are worthy of inclusion, let us pass to the hardy fruit and vegetable departments are bringing these notes to a close.

To see the whole of the vegetable quarters one must travel some distance, as they are in two portions of the estate, and are divided by a main road and a field. They are fully occupied with crops such as are most in demand in the establishment served. Hardy fruits are splendidly grown, but the foremost position must be accorded to the Cherries on the walls, for these are perfect. It is necessary now to dismiss them with a very brief reference, but an article will be devoted to them in a future

issue, as it is only then can justice be meted out. Young and old alike are superb, and never have I seen anything to equal them. Abstainers will delight in the knowledge that the Royal Princess's wine cellars are to-day employed for the production of Mushrooms, and many are the splendid crops there secured. All other crops are produced in greater or lesser numbers, according to the demand, and here, as everywhere, the condition of the stock proves how ably Mr. Hudson and his assistant carry out their duties in one of the most important establishments within the metropolitan area.—H. J. WRIGHT.

ROYAL HORTICULTURAL SOCIETY.

SPECIAL GENERAL MEETING.

A GENERAL meeting of the Fellows was held at 117, Victoria Street, on Friday, the 21st inst. Judging from the number present, some twenty-five, it would appear that the bulk of the Fellows did not feel any great interest in the matter, or concluded the alterations in the Charter were in safe hands. Sir Trevor Lawrence, Bart., President, occupied the chair, and we noted as being present Sir J. T. D. Llewellyn, Bart., the Rev. W. Wilks, and Dr. Masters, with Messrs. Harry J. Veitch, W. Marshall, P. Crowley, H. Balderson, G. Wythes, G. Gordon, Jas. Hudson, and Col. Wyndham Murray.

Sir Trevor Lawrence explained to the meeting the object for which they were assembled, pointing out in detail where the old Charter required amending, so that they could bring up the bye-laws to a modern standard. The new Charter will allow the retiring Council to be re-elected, but the chief alterations will be centred in making the new bye-laws. The legal representative of the Society then carefully waded through the old Charter, and the proposed alterations.

Mr. G. Gordon said it was unfortunate having to call the meeting at this period, when so many Fellows were away on their holidays, but he agreed that the proposed alterations would be beneficial. Sir J. Llewellyn and Dr. Masters in the course of their remarks also supported the proposals—in fact, all present were unanimously in favour when the motion was put to the meeting.

It was announced that the new bye-laws would be placed in the hands of the Fellows, so that they would have an opportunity of studying them before the date of the general meeting.

DRILL HALL.—JULY 25TH.

THE Show on Tuesday was far above the average for this season of the year. There were large numbers of exhibits in every section, and, what is more important, the quality ranged very high.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair); with the Rev. W. Wilks, and Messrs. J. Smith, G. Reynolds, R. Fife, W. Poupart, A. F. Barron, M. Gleeson, J. H. Veitch, A. H. Pearson, A. Dean, S. Mortimer, W. Bates, G. Wythes, H. Balderson, F. Q. Lane, and J. Cheal.

Unquestionably the finest exhibit in the Drill Hall was the collection of Gooseberries contributed by Messrs. J. Veitch & Sons from their Langley Nursery. There were numbers of picked fruit in boxes backed by plants in various forms. The training adopted included pyramid, cup, gridiron, and cordon, and in every case the branches were literally roped with beautiful fruit. Of those on the plants Langley Beauty, Forester, Langley Gage, Mitre, Lancashire Lad, Keepsake, and Whinham's Industry were splendid. The best in the trays comprised Langley Gage, Forester, Whinham's Industry, Langley Beauty, Golden Drop, Early Sulphur, Keen's Seedling, London, Leveller, Pretty Boy, Clayton, Stockwell, Railway, Telegraph, Beauty, Yaxley Hero, Lady Leicester, High Sheriff, Gypsy Queen, and Surprise, which can be classed as the pick of the 100 varieties that made up the group (gold medal).

Messrs. Harrison & Sons, Leicester, contributed a collection of Green Peas, numbering eighty varieties, some of which were in good condition, while others, as might be expected, were considerably past their best (silver Knightian medal). Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, sent three seedling Melons, which were passed. Mr. W. Shingler, gardener to Lord Hastings, sent three bunches of Grape Lady Hastings, a splendid variety. Messrs. W. Ray & Co., Teynham, sent Cherry Noble, a large dark fruited variety; and Messrs. J. Veitch & Sons showed the Logan Berry. Mr. Chas. Jennings, Walk House Gardens, Barrow-on-Humber, showed Pea Competitor and Raspberry Eclipse. Mr. G. Norman, gardener to the Marquis of Salisbury, Hatfield, contributed a splendid collection of fruit in boxes. There were Grapes Black Hamburg and Foster's Seedling; Strawberries Waterloo and British Queen; Raspberries Superlative and Hornet; Gooseberry Whitesmith; Cherries Black Tartarian, May Duke, Frogmore Bigarreau, and Bigarreau Napoleon; Peaches Royal George; Figs Brown Turkey; and Nectarines Lord Napier. All these were in excellent condition (silver Knightian medal).

FLORAL COMMITTEE.—Present: G. Paul, Esq. (in the chair); and Messrs. O. Thomas, H. B. May, R. Dean, J. Hudson, C. J. Salter, J. D. Pawle, Jas. Walker, W. Bain, G. Gordon, Herbert J. Cutbush, E. H. Jenkins, H. J. Jones, E. T. Cook, D. B. Crane, W. Selfe Leonard, J. Jennings, and J. W. Barr.

Messrs. W. Cutbush & Son, Highgate, staged an interesting exhibit of Irises, comprising no less than forty-five distinct varieties. The chief were *Hedera chrysophylla*, *H. maderiensis folia variegata*, *H. digitata nova aurea*, *H. algeriensis*, *H. donerailensis*, *H. dentata*, and *H. arborea aurea* (silver-gilt Flora medal). From Messrs. Barr & Sons, Covent Garden, came a collection of cut herbaceous flowers, which included a

bright display of Phloxes, Sweet Peas, *Alströméria chilensis*, *Iris Kämpferi*, *Eryngium* in variety, and *Coreopsis grandiflora*.

Ferns were beautifully displayed by Messrs. J. Hill & Son, Lower Edmonton, with a large group of specimen plants, which included *Cyathea insignis*, *Alsophila excelsa*, *Davallia njiensis elegans* (a fine specimen), *Cibotium Schiedeii*, *Asplenium nidus*, well grown *Pteris aspericaulis*, *Gymnogramma peruviana*, and *Davallia dissecta* (silver-gilt Flora medal). Messrs. H. Cannell & Sons, Swanley, added variety to the show with an interesting exhibit of Cacti, consisting chiefly of specimen plants. The most remarkable forms were *Echinocactus Grusoni*, *Mamillaria Bocasana*, *M. lasiocantha plumosa*, *Cereus peruvianus*, *Echinocactus Emoryi* with its awful fish-hooks, *Opuntia ursinus*, the Grizzly Bear, *Pilocereus senilis*, and *Mamillaria nogalensis*. The same firm also exhibited flowering plants of a dwarf strain of *Antirrhinums*, bright in colour, very dwarf and floriferous (silver Flora medal).

Messrs. Richard Hartland & Son, Cork, staged a fine exhibit of double and single *Begonias* in boxes; the former predominated, but both were well represented. The double varieties were excellent, very bright, and of large size. A few of the best were Mrs. Stothert, Duke of Fife, Reynolds Sharp, Mrs. S. Pope, Leviathan, Dr. Nansen, and Miss Alice Sparrow. The singles were seedlings of a very good type (silver Banksian medal).

Messrs. Jas. Veitch & Sons, Ltd., Chelsea, presented a representative display of *Java Rhododendron hybrida*, also an extensive exhibit of hardy flowers. The *Gypsophila paniculata* and *Statice latifolia* gave a lightness and grace to the exhibit that might often be copied with advantage. The best bunches were *Romneya Coulteri*, *Oenothera speciosa*, *Achillea eupatorium*, *Acanthus latifolius*, *Cimicifuga racemosa*, *Monarda didyma*, and *Cephalaria alpina*, a South African annual. *Diascia Burberga*, with rosy pink flowers, attracted much attention; as did also bunches of *Magnolia macrophylla*, *Cornus macrophylla*, and *Hydrangea quercifolia* (silver Flora medal).

Mr. H. B. May, Upper Edmonton, arranged an exhibit of Ferns and a new *Campanula*, a blue form, called *Campanula Mayi*, which will make a fine companion to *Campanula isophylla alba*. The specimens shown were a mass of bloom, and only five months old. It will make a splendid market plant. Also well grown plants of *Acalypha hispida* (Sanderi) (silver Banksian medal). Some bright Pansies were sent by Messrs. Dobbie & Co., Rothessy, N.B., and were called *Victoria* or *Wallflower* coloured Pansies. They certainly contain plenty of colour, and must be effective in the garden. Messrs. F. Sander & Co., St. Albans, staged well grown plants of *Acalypha hispida* (Sanderi), and a fine decorative Palm, *Linosyadix Petrickiana*, also a few hybrid *Cypripediums*, chiefly crosses of *C. Rothschildianum*.

A bright exhibit of Sweet Peas was staged by Mr. R. C. Notcutt, Broughton Nursery, Ipswich. The varieties that were most attractive were *Oriental*, *Royal Rose*, *Sensation*, *Aurora*, *Lady Grisell Hamilton*, *Salopian*, and *Mr. Kado*. Messrs. Kelway & Son, Langport, opened the Gladioli season with a large exhibit. The spikes were not developed fully, but sufficiently so to see the quality of the flowers. Attractive varieties were *King of Siam*, *Duke of Buccleuch*, *Kate Kove*, *W. B. Child*, *Amphora*, *Beauty*, *Kitchener*, and *Grenfell*; also a few varieties of *Gaillardias*, *Delphinium Belladonna*, single and double *Hollyhocks*, the latter being represented by very fine spikes (silver Flora medal).

A beautiful exhibit of Lilliums and other hardy flowers was sent by Messrs. R. Wallace & Co., Colchester. The Lilliums included *L. longiflorum giganteum*, *L. pardalinum*, *L. excelsum*, *L. Browni*, *L. Thunbergianum*, *Van Houtte*; Japanese Irises in variety were attractive, while *Calochortus macrocarpus*, with its pale purple flowers, added quite a new colour; a collection of border Carnations completed the display (silver Flora medal). A graceful group of decorative plants was arranged by Mr. J. Fleming, gardener to Sir Ch. Pigott, Bart., Wexham Park, Slough. It consisted of well-grown plants of *Humea elegans*, *Campanula pyramidalis*, *Cannas*, *Carnations*, *Francia racemosa*, *Liliums*, and a few *Orchids*, while the foliage plants consisted of *Crotons*, *Caladiums*, *Palms*, and *Ferns* in variety (silver-gilt Flora medal). A large collection of garden or decorative Roses was staged by Messrs. G. Cooling & Sons, Bath. The bunches were in capital condition considering the weather of the past few weeks. Most notable were *Dr. Grill*, *Pink Rover*, *Orphirio*, *Perle de Feu*, *Mrs. J. Wilson*, *L'Idéal*, *Shirley Hibberd*, *Duchesse d'Anerstadt*, *Marie Leonides*, *Cooling's white Noisette*, and *Marquis of Salisbury* (silver Banksian medal).

Messrs. Paul & Son, Cheshunt, exhibited a collection of garden Roses, Phloxes, and a variety of hardy flowers. In the Roses the American Rose *Roger Lamberlin* was notable, the edges of the petals being like a *Petunia*. Cheshunt Scarlet, Royal Scarlet, and Paul's Single White were the best of the single forms, while *J. B. M. Camm*, *Ulrich Brunner*, *Helen Keller*, and *A. K. Williams* were the best of the Hybrid Perpetuals. The best Phloxes were *Coquillot*, *Irises Wm. Ramsey* and *Henry Murger* (silver Banksian medal). Mr. Anthony Waterer, Knap Hill Nursery, Woking, staged a collection of ornamental foliage trees, including *Vitis Coignetiae*, *Ulmus campestris*, *Louis Van Houtte* (a grand colour), *Vitis Thunbergi*, and *Quercus pedunculata purpurea*. Roses were also sent by Mr. W. Rumsey, Waltham Cross. The box of Mrs. Rumsey, the new pink, was much admired. The garden Roses were also attractive, especially *The Bride*, *The Queen*, *Gustave Regis*, *L'Idéal*, *Madame Hoste*, *Madame Louis Laurens*, and *Perle d'Or* (silver Banksian medal). Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a group of Golden Acers named *A. californica aurea*.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair), with Messrs. J. O'Brien, de Barri Crawshaw, H. Little, S. Courtauld, J. T.

Gabriel, H. J. Chapman, W. H. Young, F. W. Moore, H. J. Pitt, E. Ashworth, W. Cobb, J. G. Fowler, J. Colman, E. Hill, and H. Ballantine.

Orchids on this occasion were by no means numerous, indeed they were limited to two small collections and several exhibits of single plants and cut flowers. Messrs. J. Veitch & Sons, Ltd., Chelsea, staged the larger collection, but this was much more limited than is customarily the case. The group included *Lælio-Cattleya callistoglossa ignescens*, *Lælia Olivia*, *Cattleya Atalanta*, *Cypripedium orphanum*, *Astræa*, *Euryale*, *Morgania*, *Harrisianum superbum* and *Alice*; *Sobralia Veitchii*, *Epilælia Charlesworthii*, *Epidendrum elegantulum* and *Epilælia radicans purpurata*. Messrs. Veitch also contributed in another position *Sophro-Cattleya Queen Empress*, *Disa Clio superba*, and *Cypripedium Alice superbum* (silver Flora medal).

Messrs. H. Low & Co., Bush Hill Park, contributed about half a dozen plants, amongst which were *Cattleya Prince of Wales*, *C. Acklandiae*, *Dendrobium sanguineum*, and *Phaius Ashworthianus*. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch, Reigate, sent spikes of *Miltonia vexillaria* in variety, while Mr. N. Norris, gardener to T. A. Rehder, Esq., Gypsy Hill, showed *Cypripedium Miss Rehder*, a cross between *Argus* and *hirsutissimum*. Mr. W. Waters, gardener to Lt.-Col. Shipway, Grove House, Chiswick, exhibited *Gongora Shipwayae* and *Cattleya gigas*, and Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Dorking, *Stanhopea aurantiaca*. Mr. H. Holbrook, gardener to E. Ashworth, Esq., Wilmalaw, sent *Dendrobium formosa Lowi*, and Mr. G. Reynolds, Gunnersbury Park Gardens, a form of *Vanda teres*.

CERTIFICATES AND AWARDS OF MERIT.

Abies Douglasii pumila, Colorado variety (A. Waterer).—A dwarf, compact growing variety of beautiful colour (first-class certificate).

Acer californica aurea (H. Low & Co.).—A bright yellow form of the Californian *Acer* (award of merit).

Arundo Donax macrophylla (A. Waterer).—A splendid variety of a justly popular plant (award of merit).

Begonia Mrs. John Caulfield (R. Hartland & Son).—A brilliant rosy red double variety (award of merit).

Begonia M. Wannot (R. Hartland & Son).—Pale salmon pink, a finely built flower (award of merit).

Caladium Jean Dybowski (J. Laing & Sons).—A handsome plant. The large leaves are crimson with dark green edges (award of merit).

Campanula Mayi (H. B. May).—After the character of *isophylla alba*. The flowers are pale blue, and the leaves downy (award of merit).

Campanula Warley (Miss Willmott).—A lovely plant. The habit is upright, and the bright blue flowers are semi-double (award of merit).

Cherry Noble (W. Ray & Co.).—A magnificent dark Cherry of excellent flavour. It is a very heavy cropper (first-class certificate).

Cornus macrophylla (J. Veitch & Sons).—A splendid plant producing immense quantities of creamy white flowers (award of merit).

Delphinium José Marie de Heredia (J. Veitch & Sons).—A grand double flower, pale lavender in colour, edged with blue (award of merit).

Disa Clio superba (J. Veitch & Sons).—Shown side by side with the type the variety was found to possess splendid colour—very intense crimson, with a purple suffusion (first-class certificate).

Grape Lady Hastings (W. Shingler).—Figured and fully described in the *Journal of Horticulture* for October 20th, 1898, page 303 (first-class certificate).

Nicotiana sylvestris (J. Hudson).—A large leaved form, with small white long tubular flowers (award of merit).

Phlox Fiancée (Paul & Son).—A superb pure white variety. The trusses are very large (award of merit).

Renanthera Imshootiana superba (J. G. Fowler).—A magnificently coloured form of the type (first-class certificate).

Rose J. B. M. Camm (Paul & Son).—A cross from H.P. Madame Gabriel Leizet and Bourbon Mrs. Paul. The flower is full and conical, and of charming silver pink colour with a clear pink shade at the edges of the petals (award of merit).

Sophro-Cattleya Queen Empress (J. Veitch & Sons).—This is one of the finest bigeneric hybrid Orchids that has ever been shown (see fig. 18, page 73). It resulted from a cross between *Sophronitis grandiflora* and *Cattleya Mossiae*, and the parentage is distinctly perceptible. The sepals, 2 inches in length, are brilliant crimson at the tips and margins, paling slightly in the centre, while the broad spreading sepals (2 inches and 1½ inch) are crimson, but of a duller shade, and with brighter crimson venations. The long lip is crimson with purple suffusions, the side lobes being of the same colour, and the throat is yellow. The plant, fifteen years old, carried two splendid flowers, one of which is shown exact size on page 73 (first-class certificate).

Strawberry Lady Suffield (J. Allen).—This variety has been shown several times this season. The conical fruits are very dark in colour, and the flavour is good. It is a maincrop variety (first-class certificate).

Vanda teres variety (G. Reynolds).—A charming flower. The upper sepal is paper white, the petals white suffused with rose purple, and the lip purple with a paler edge and a yellow throat (award of merit).

Vitis Thunbergi (A. Waterer).—A handsome leaved plant. The upper surface is dark green and the under buff (award of merit).

CHISWICK.—JULY 24TH.

A MEETING of members of the Fruit Committee, comprising Mr. Balderson (Chairman), and Messrs. Wythes, Reynolds, Farr, Bates, Dean, Barron, and Fyfe, was held in these gardens on this date. A large and excellently grown collection of Potatoes was first seen, the earliest

only being examined. Out of about thirty rows tested, some of which gave either small produce, or were evidently not quite ready, nine were selected for the cooking trial, and five were granted three marks. These were Bradley's Early Peter, Hibberd's Seedling, Solomon's Norbury Park, Caddick's Caradoc Seedling, and Johnson's Prolific. Some standard varieties were very good, but had previously had awards. Next was an extensive trial of Dwarf Kidney Beans. Several of these were only suitable for pot culture. Some very promising ones were not yet ready, but most of the usual garden varieties were in excellent condition. Those awarded three marks were No Plus Ultra, Stringless, Veitch's Progress, Sutton's Perfection, Watkin's Covent Garden, Negro, and Everbearing. Three marks were also given to Tomatoes Comet, a fine large red; Cherry Ripe, smallish, rich flavour; and Chiswick Peach, a sport from Red Peach of last year, fruit medium size, round, of a lemon colour, coated with bloom, and of fine flavour. Cherry Ripe also gave quite rich flavour. It is suited for dessert.

CARNATIONS AT CHELSEA.

I SHOULD not like to confess the number of years that have found me wending my way to see the Carnations in flower at Messrs. J. Veitch and Sons nursery in King's Road, Chelsea—it must extend a long way into the teens. Nevertheless the interest remains as keen as ever, because the inspection is peculiarly instructive. The reason it teaches such useful lessons lies in the fact that the varieties that flourish at Chelsea will luxuriate practically anywhere. Not only have the plants to withstand the effects of a vitiated atmosphere, but the position of the beds is such that they can never have the slightest protection from the rays of the sun. This season, with upwards of 120° registered, the flowers have not stood as they usually do, and have lacked substance of petal, owing to the absence of the health and strength-giving rain.

While it is not suggested that the collection as a whole reaches the standard one looks for, it is none the less a fact that some varieties are in splendid condition as regards size, form, substance, and colour of the blooms. But these alone do not always speak as to the constitution of a particular plant—to know this one must see the foliage and the "grass." If these have all the desirable attributes then it may safely be taken that the plants will produce flowers even under the unfavourable conditions of any of our large manufacturing towns. In the pure air of the country a plant that does moderately well in a town will simply luxuriate and produce, if it is allowed to do so, flowers without number. If very large blooms are required, it is obvious that the disbudding must be severer than when large numbers of moderate size form the object in view. Soil, too, plays an important part in the formation of the most satisfactory growth, but an expensive staple is not absolutely necessary to the production of flowers of average quality and sufficiently meritorious to satisfy the majority of growers for home adornment.

At Chelsea plants are growing out of doors as well as in pots in one of the greenhouses, so that the enthusiastic visitor may get from the beds an idea of the plant's constitution, and from the pot plants an estimate of the real merit of the blooms themselves, and of their true colours. This is very advantageous, as it allows one to make a better selection than would be possible under one of the two systems alone. Those who would see the plants in flower should lose no time, as with a continuance of the great heat the flowers must rapidly pass their best development, and will be seen no more for another year.

As both old and new varieties find places in the collection the range of habit, constitution and colour is very considerable, and no difficulty ought to be experienced by anyone making a selection. For example, there are Mrs. Frank Watts, white; Mephisto, crimson; and Crombie's Pink, which, though have been in cultivation for several years, possess merits that entitle their inclusion in every comprehensive list. Among newer ones there are many of sterling merit, such as Isinglass, the superlative scarlet crimson, and George Maquay, most floriferous of whites, that were only put in commerce last year, and yet are necessary adjuncts to every garden. Then the soft rose of Lady Nina Balfour, the salmon of May Kobe, and the terra-cotta of Mrs. Colby Sharpin will have many admirers, as will the splendid yellow grounds Mohican, His Excellency, Mrs. Tremayne, and Zingara. Bendigo, bluish purple; Sweet Briar, pale scarlet; and Bradicea, rose scarlet, make a charming trio; as do Sir Henry Irving, crimson; The Briton, white; and Saul, yellow.

A few that come within the newest of the new are Francis Wellesley, deep carmine rose, large and striking; Amy Robsart, dark scarlet of fine form; Helmsman, pure white, splendid petals; Haidee, mauve, very large; Czarina, yellow ground heavily marked with scarlet; Diane, lemon yellow, of perfect contour; and Holmwood, maroon crimson. Of course there are many others, but those enumerated took my eye, and appealed most strongly to my particular taste. Despite the rival attractions at Chelsea in the form of Orchids, visitors now make prompt tracks towards the Carnations, and in doing so they are exercising a judgment that everyone will do well to take copy.—G. H. F.

"FAMILIAR WILD FLOWERS."—The plates comprised in parts 16 and 17 of this work are Bladder Campion, Rest Harrow, Deadly Nightshade, Self-Heal, Foxglove, Musk Mallow, Nodding Thistle, Corn Crowfoot, Broom Rape, Purple Loosestrife, Autumnal Hawk Bit, Common Mallow, Common Avena and Meadow Barley, Meadow Saffron, Scentless Mayweed, Creeping Thistle, Water Ragwort, Tansy and Wood Vetch.

SCABIOSA CAUCASICA.

THE common Scabious, *S. atropurpurea*, is well known and much valued in gardens, not only as a border plant, but in pots for decoration or to furnish a supply of fragrant blooms, and in many establishments it is now largely grown for the latter purpose.

A beautiful but quite distinct companion for it in the flower border is *Scabiosa caucasica*, of which a woodcut is given (fig. 21). This species undoubtedly deserves a place in every collection of hardy plants; and though it has no claim to novelty, its beauty is amply sufficient recommendation to cultivators. The flower heads are 3 or 4 inches in diameter, bright pale blue, and they are very freely produced, rising above the long slender pinnatifid leaves. It is of compact habit when growing freely, as it will in any moderately good garden soil. The flowers are well adapted for cutting, as they last a considerable time in water.

SHOWS.

NEWCASTLE.—JULY 19TH, 20TH, AND 21ST.

THE above exhibition was held in the Leazes Park on Wednesday, Thursday, and Friday. The venue was this year changed to its former place, and none, we think, will regret it. Newcastle is now rich in parks, by the enterprise of its citizens and the munificent gift of its noblest one, Lord Armstrong. The Leazes is extremely beautiful; the trees and foliage of the same are at their very best. Flower beds of every design are rich and choice with all the well known summer blooming plants, but the carpet bedding on the front and the grand terrace is superb in colour, design, and conception, and was the centre of attraction of thousands. The beds are more freehand than geometrical, and well show the artistic skill of the Superintendent, Mr. Moffatt, who in his leisure hours is as much at home with the easel as he is in his favourite pursuit as a recognised specialist in carpet bedding.

The show was held in three tents, two at right angles to each other, and they were spacious and lofty. The rain fell in copious torrents both the first and second day. There is, perhaps, in England no show that the cruel irony of Fate has had such an exacting effect upon. The Committee and the newly appointed Secretary deserve therefore the commendation of everyone. Referring to the salient points of the exhibition, it is regrettable that the competition is not so good as it used to be. Knowing the exhibition for thirty years, we can vouch for what we say. This is most pronounced, too, in the more important classes for exhibitors, such as stove and greenhouse plants and groups the competition was very bad indeed, and if it were not for the splendid way the local nurserymen support the exhibition by their magnificent groups and stands of plants the show would lose much of its effect as an exhibition. The strong points of the exhibition were the magnificent exhibits of Roses, which certainly never were surpassed at Newcastle, while the superb collections of herbaceous plants were most attractive by the large and massive way each specimen was represented, and it is questionable if better have been staged in this country.

Table decorations were of a unique and artistic character, which is always the case at Newcastle. These include epergnes, baskets, bridal and ordinary bouquets, buttonholes, all of which were of very high-class merit. Also mention must be made of the "fireplace decorations," which were exceedingly pretty, and no doubt it practised more for home adornment would have a cool and pleasing effect in drawing-rooms during the summer.

Fruit was not very extensive, nor the competition keen; but some excellent produce was staged, and for the season highly commendable exhibits were placed on the exhibition table. Below is appended the awards of the Judges.

For a group of miscellaneous plants arranged for effect, 20 feet by 30, Mr. J. McIntyre, of Darlington, was first in his best form, and showed what can be done by good taste. The groundwork was moss; Palms and Crotons were raised on vases, and covered with virgin cork. These plants were set off with Caladiums and all kinds of flowering stove and greenhouse plants; here colour and effect were brought in to harmonise with each other. This truly shows how a grand effect can be made sometimes with very little expense. Mr. B. Jennings, Newcastle, was second with a very effective arrangement. Dracenas, Crotons, double tuberous-rooted Begonias were shown in this section, and Mr. J. McIntyre was first in each, as well as for six table plants, which were of even size, and consisted of small plants of Dracenas, Crotons, and Palms.

Collection of Roses arranged for effect, occupying space 10 by 4 feet, Palm, foliage plants, and moss to be allowed. This class was much admired although there were only two competitors. The Society offered for first £6 and the bronze medal. Messrs. D. & W. Croll, Dundee, were first, and Messrs. Harkness & Sons, Bedale, second. For thirty-six Roses there were four competitors, the varieties to be shown in triplets, and to consist of twelve varieties. Messrs. Harkness & Sons were first, Messrs. Alex. Dickson & Sons, Belfast, second, Messrs. D. & W. Croll third, and Messrs. Cocker & Son fourth. The first stand contained Alfred Colomb, Comtesse de Ludre, and Marchioness of Londonderry.

For forty-eight Roses, distinct varieties, £4 is offered for first. Messrs. D. & W. Croll were first, Harkness & Sons second, Alex. Dickson and Sons third. This stand was the centre of attraction, as truly they were a grand class altogether. In the first the best flowers were Horace

Vernet, La France, Helen Keller, Gustave Piganeau, Marchioness of Londonderry, a pale flesh; Innocente Pirola, old, but good; Comtesse de Ludre, a pale cherry; Capt. Hayward, Antoine Rivoire, an improvement on Gloire de Dijon; and White Lady, a sport from Lady Mary Fitzwilliam. The second stand contained Marchioness of Londonderry, Her Majesty, tint very fine; E. André, pale, but a fascinating cherry; Comtesse de Nadaillac, large, flesh colour; and Duchess of Bedford, a champion Rose.

For twenty-four Roses, Messrs. Alex. Dickson & Sons were first with Alice Lindsell, perfect; Her Majesty, Marchioness of Londonderry, Earl of Dufferin, Bartholomew Joubert, and Robert Duncan. For twelve Roses, one variety, Messrs. D. & W. Croll were first with Mrs. John Laing. This was a grand stand, and maintained the reputation of the firm; the blooms were faultless in colour and form. Messrs. Harkness and Sons were second with A. K. Williams.

For twenty-four bunches of hardy herbaceous plants, and border flowers, Roses excluded, Messrs. Cocker & Son were first with a fine collection, Messrs. Harkness & Sons second, and Mr. F. Edmondson third. For eighteen Messrs. Harkness & Sons were first, Messrs. Cocker & Son second, and Mr. F. Edmondson third. The first contained very large bunches of Delphinium Diadem, Lilium candidum, Eryngium amethystinum, Galega officinalis, Alströmara aurantiaca, Centaurea aurea and macrocephala, Achillea ptarmica fl-pl, Papaver nudicaule, and Potentilla. Carnations and Pansies were also a grand treat to the florist's eye. Messrs. Campbell, Coxon, and Thomas Battensby were the prizewinners for the latter, and Messrs. Laing and Mather, Kelso, for Carnations, which were excellent for the season.

Whatever Newcastle flower show lacks as an exhibition, table decorations year by year hold their own. This year the exhibits filled one large central table in the eastern marquee. Vase or epergne for drawing-room Messrs. F. Edmondson, Geo. Webster, and T. Battensby were awarded the honours as mentioned. For a vase and epergne for drawing-room, Orchids excluded, Mr. Battensby was first. For basket of cut flowers Mr. F. Edmondson was first. Bouquet of Roses, Mrs. B. Jennings. Bridal Bouquet, Mr. T. Battensby. Bridal bouquet, Orchid excluded, Mrs. B. Jennings. Hand bouquet, also Orchids excluded, three sprays for ladies and six buttonholes, the veteran exhibitor Mr. Thos. Battensby was first, and no exhibitor need be ashamed to be second to him.

For a drawing fireplace decoration Mr. J. Farquharson was first. Table decorations, including the latter, were a splendid spectacle, and the draping of the epergnes, baskets with Asparagus, Smilax, Ferns, was where the art came in that showed the exhibitors' skill. The taste in Messrs. Battensby, Edmondson, Webster, and Jennings' stands were such as received a consensus of opinion from a critical public, which the exhibitors well deserved.

For a collection of eight dishes of fruit, distinct kinds, Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., M.P., Hutton Hall, was first; Mr. J. H. Goodacre, Elvaston, second; Mr. H. W. Fulford third, and Mr. Nicholls fourth. £5 was the first prize. Black Hamburgh Grapes were very fine, so were Muscat of Alexandria, Brown Turkey Figs, Best of All Melon, Sea Eagle Peaches. Second, Mr. J. H. Goodacre, with very fine Muscat Hamburgh and Muscat of Alexandria, Grapes, Lord Napier Nectarine, and a Queen Pine 2½ lbs. in weight.

For a collection of four dishes of fruit, Pines excluded, Mr. J. McIndoe was again first, and Mr. W. Nicholls, The Gardens, Carlton Towers, second. The former had Black Hamburghs, Muscat of Alexandria Grapes, Best of All Melon, and Grosse Mignonne Peaches, the latter splendidly coloured. In Mr. Nicholls' collection Royal George Peaches figured conspicuously by their fine form and colour, and the last exhibitor was first for four bunches of Grapes, not less than two varieties. The varieties were Black Hamburgh and Buckland Sweetwater, the latter a perfect amber colour and well finished; as Mr. Nicholls is a young exhibitor his fruit stands were most creditable to him. For two bunches of Grapes White Muscat, Mr. McIndoe was first, and for two bunches (any variety) Mr. Nicholls was first with Buckland Sweetwater, similar to those in his four bunches. Mr. D. Williams, The Gardens, Duncombe Park, Helmsley, was first with two bunches of Grapes, any other variety, with Madresfield Court exquisitely finished.

For a Melon, Mr. J. H. Goodacre was first with Countess, a green flesh. For Peaches, Mr. Nicholls, with Royal George, matchless in colour. He was placed in the same position for Nectarines with Lord Napier. For two dishes of Strawberries, Mr. W. G. McFarlane, Fisher Lane, Alnwick, was first with grand fruits of Royal Sovereign and Marshal MacMahon. Prizes for vegetables were offered by Messrs. R. Sydenham, Webb & Sons, and Sutton & Sons, which were fairly competed for.

NURSERYMEN'S EXHIBITS.

These, as we have already mentioned, were most creditable. Messrs. Wm. Fell & Co., Wentworth Nurseries, received a silver medal for a fine collection of Conifers, Japanese Maples, and herbaceous plants; Messrs. Jas. Cocker & Sons, Aberdeen, for a collection of herbaceous plants; Mr. Henry Eckford of Wem for a splendid collection of Sweet Peas; Messrs. T. A. Hutchison, South Shields, for a general collection of fine decorative plants; Mr. J. Douglas, Edenside, Surrey, a v.h.c. certificate of merit for Carnations Trojan, Jolande, and Blushing Bride; Messrs. Little and Ballantyne, Carlisle, for a choice collection of Crotons and stove plants; Messrs. Paul & Son, Old Nurseries, Cheshunt, Hertfordshire, v.h.c. for a new Rose, J. B. M. Camm; and Messrs. Laing & Mather, seed merchants, Kelso, highly commended for Carnations. Messrs. Edwards & Son, Nottingham, exhibited their well known flower boxes; Messrs. J. H. Harrison & Son, Newcastle, their garden furniture; Messrs. Wm.

Harriman & Co., Newcastle, their unique and artistic garden terra-cotta ware. The trio of new Roses exhibited by Messrs. Alex. Dickson & Sons, Newtownards, Co. Down, Ireland, shows how well the climate of the Emerald Isle is suited to Rose culture.—BERNARD COWAN.

CARDIFF.—JULY 19TH AND 20TH.

THE eleventh annual show was held in the Sophia Gardens, Cardiff. The tents were very happily and pleasantly interspersed on the green lawns amongst the trees and shrubberies, an arrangement which always enhances the effect of the exhibition. Both evenings the avenues and walks were prettily festooned with fairy lights and Chinese lanterns, while the band of the Royal Marines (Plymouth) added considerably to the enjoyment of those present. Both the days were bright and intensely hot. The groups of plants and the table decorations were the features of the



FIG. 21.—SCABIOSA CAUCASICA.

show, combined with the trade exhibits, which are becoming more interesting every year. Amongst cut flowers Sweet Peas were to the fore, and were really splendid. Roses were poor compared with previous shows.

In the open class a prize of £12 for the best group of miscellaneous plants in and out of bloom, arranged to produce the best effect, occupying a space of 160 square feet, was won by Mr. J. Cypher, Cheltenham. The arrangement—square shaped—was admirably grouped in that artistic, light, airy style which has so often, all over the country, gained for Mr. Cypher the premier place. Through the centre ran a light bridge-like cork structure, surmounted by a graceful Palm, and clothed with fine Ferns, miniature Crotons, and Eulalias. In the four corners were pedestals of rockwork, out of which rose splendid specimens of Humex elegans, whilst amongst the rockwork, which formed the base and general foundation of the group, were highly coloured Crotons, Oncidium, Cattleyas, and Lychnis. The second prize group was that of Mr. R. Crossling, Penarth, who made use of some well grown and very dwarf Cannas of his

own raising. A. T. Robinson, Esq., Whitechurch, and G. Rutherford, Esq., Cardiff, were third and fourth respectively.

In the amateur class Mr. W. Carpenter, gardener to W. J. Buckley, Esq., Llanelli, was successful with a charming group, occupying 50 square feet; and G. Rutherford, Esq., second. For the group occupying 25 square feet Mr. Rex, gardener to C. Waldron, Esq., Llandaff, was first. For the best stove or greenhouse plants in bloom Mr. Lockyer, gardener to J. C. Hanbury, Esq., Pontypool Park, took first prize with well flowered plants of good species. In the open class for six Fuchsias Mr. Hillard, an amateur, won first prize.

Mr. W. L. Bastin, gardener to A. Henderson, Esq., M.P., Buscot, took first prize for twelve plants for table decoration. Mr. Carpenter, Llanelli, carried off the first prize for the best six stove or greenhouse Ferns with good specimens of *Adiantum gracillimum*, A. Williamsi, *Microlepia hirta cristata*, *Dicksonia antarctica*, *Cyathea dealbata*, and *Gymnogramma chrysophylla*.

In the cut flower section Mr. Ralph Crossling, Penarth, took first prize for the best stand of H.P. Roses of twelve varieties, three blooms each. His stand contained the following varieties—Victor Verdier, Ulrich Brunner, Victor Hugo, Jean Souper, Mrs. John Laing, Fisher Holmes, Horace Vernet, A. K. Williams, Heinrich Schultheis, Alfred Colomb, Duchess of Bedford, and Duke of Wellington. For the collection of Roses, space 6 feet by 3 feet, shown with their own foliage and buds, Mr. John Mattock, Oxford, was first, and Mr. G. Prince, Oxford, second.

For the best twelve Carnations or Picotees, distinct varieties, Mr. W. Treseeder was first, and also for Carnations arranged for effect. In the open class for table decorations, Messrs. Case Bros., Cardiff, were first with a lovely arrangement of Shirley Poppies. Mr. A. E. Price, Cardiff, was first for the hand bouquet with a beautiful arrangement of *Odontoglossums*, *Cattleyas*, *Paneratiums*, and *Asparagus plumosus*.

Mr. T. M. Franklen, and Mr. Hollingworth, Margam, showed some very fine Grapes, Melons, and Pine Apples. Hardy fruit exhibits were inferior, owing undoubtedly to the earliness of the Show. Vegetables were not up to the usual mark of excellence.

Mr. W. Treseeder's, Cardiff, effective arrangement of different light dwarf plants extending the whole breadth of one end of the large group tent, was one of the chief attractions of the Show. Its informal irregularity was exceedingly pleasant, and the rock and moss work seemed to lend a coolness appreciated by the frequenters of what was otherwise an unpleasantly overheated tent. The principal plants were Carnations, *Lilium speciosum*, *Hameas*, bunches of Sweet Peas with foliage, and a background of graceful dwarf Palms and Bamboos. A special award was deservedly given this by the Committee. Mr. Treseeder also showed a grand collection of Cactus Dahlias, for which this firm has more than a local reputation. Messrs. Eckford of Wem, Jones & Sons, Shrewsbury, and B. R. Davis, Yeovil, showed very fine collections of Sweet Peas. Messrs. Catbush & Son, London, staged a unique collection of Ivies, forty-five varieties, growing in baskets, and Messrs. Clibran, Altrincham, amongst other exhibits, had some good *Pelargonium* blooms.

HUYTON AND ROBY.—JULY 20TH.

UNDER the most auspicious conditions as regards attendance, weather, and quality of exhibits, Sir John Willox, M.P. for the Everton division of Liverpool, accompanied by Lady Willox, opened the annual exhibition, held in the grounds of the public offices, Huyton. The Rev. E. Manners Sanderson, vicar of Huyton, introduced Sir John, who, in addressing those present, spoke at some length on the delights afforded by studying plants and flowers, the address altogether being of so much importance as to necessitate my asking the Editor's permission to include an abridged report in my next "Liverpool Notes."

The exhibits on the whole were much above the average, more especially the excellent collection of fruit staged by Mr. R. Doe, gardener to the Right Hon. the Earl of Derby, Knowsley Hall. It consisted of handsome Melons, Black Hamburg and Foster's Seedling Grapes, grand Lord Napier Nectarines, seedling Raspberry, the Loganberry, Comte de Montiflore and Dymond Peaches, with magnificent dishes of Waterloo, Gunton Park, Stirling Castle, and Oxonian Strawberries. The cultural certificate was never more deservedly awarded.

Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, had the distinction of taking all the leading prizes for stove and greenhouse plants, winning with fine specimens for four and single stove and greenhouse, three Ferns, two Palms, four *Caladiums*, one *Caladium*, one stove plant, one Fern, and six bunches of Sweet Peas, besides numerous seconds. Mr. J. George, gardener to F. W. Mayer, Esq., Whitefield House, Roby, was a good follower. Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby, won with a tastefully arranged group of plants, his greenhouse flowering plants being superbly flowered and winning in keen competition prizes for four Begonias, four Gloxinias, four Petunias, and a single Orchid with a richly flowered plant of *Oncidium Lanceanum*. Fuchsias and Zonal "Geraniums" saw Mr. E. Bridge, gardener to Mrs. Jowett, Greenhill, Huyton, in his usual correct form.

Roses were fairly well staged, Mr. J. Burrows, gardener to W. H. Crook, Esq., Huyton, taking the leading honours with fresh flowers of the best varieties for twelve and six, the remaining prize falling to Mr. Valentine, gardener to G. H. Pilkington, Esq., Wheathill, Roby. Mr. George was a good second in these classes, and won the prizes for choice table plants and superb Carnations. Herbaceous plants were in great numbers, but nothing finer either in arrangement or variety has been seen than those staged by Mr. A. Disley, jun., gardener to Sir David Radcliffe of Thingwall Hall, Broadgreen. A delightful study of

Coreopsis, Gysophila, Ferns, and Asparagus won the table decoration for Mrs. Ernest Harrison. For quiet tone and harmony in arrangement the epergne by Miss Crippen, consisting of mauve and white Sweet Peas, will long be remembered.

An effective basket of Roses was sent by Mrs. E. Shorrocks Eccles, Beaconsfield, Huyton; a pretty gentleman's buttonhole by Mr. Eaton, gardener to Jno. Parrington, Esq., Roby Mount, Roby; the spray arranged by Mr. Hardcastle, gardener to T. Harding, Esq., Rydal House, Huyton, being charming and elegant.

Fruit was of superior quality, Mr. W. Oldham, gardener to Joseph Beecham, Esq., Ewanville, Huyton, winning with good Black Hamburgs, Hero of Lockinge Melon, *Violette Hâtive* Nectarines, and *Grosse Mignonne* Peaches. The hardy fruit was grand, Messrs. Disley and J. Roberts, gardener to John Stone, Esq., Huyton, being successful. Vegetables were of good quality, the prizewinners being Messrs. Lyons, Humphreys, Eaton, and Roberts.

The cottagers' displays were greatly admired, Mr. John Read winning the Countess of Derby's prize, Mr. Lawson Mrs. Parrington's prize, and Mr. Jackson the remaining one. Messrs. R. P. Ker & Sons, Aigburth Nursery, had a miscellaneous stand of more than ordinary interest; Mr. Middlehurst a large array of the finest Sweet Peas, and Mr. C. A. Young Carnations. Messrs. W. W. Crook, T. D. Syers, and H. Middlehurst are to be congratulated for their intense interest in the work, and Messrs. Humphreys and Rimmer for their staging abilities.

ASHTED.—JULY 20TH.

THE annual exhibition of the local Society was held as usual in the beautiful park surrounding Mr. Pantia Ralli's residence, one of the most delightful places for such a show to be found in Surrey, whilst the competitive classes were limited to cottagers and allotment holders, of which there was a very good display.

Mr. G. Hunt, Mr. Ralli's able gardener, filled the centre of the chief tent with a very fine group of foliage and flowering plants, that was greatly admired. There were in the centre noble Palms, beneath which were numerous *Liliums*, Chimney Campanulas, Bougainvilleas in bush form, *Clerodendron fallax* in quantity, *Francoas*, *Caladiums*, *Dracenas*, *Crotons*, and many other plants of great interest and beauty. From Mr. H. Corbett, gardener to Mrs. Denhire; Mr. T. Goldsmith, gardener to the Rev. F. G. S. Lucas; Mr. E. Goldsmith, gardener to E. Adams, Esq.; and Messrs. Morse Brothers, of Epsom, came groups of plants. In Mr. Adams' group the Gloxinias formed a fine feature. Miss Evelyn Hill Williams took the first prize for ladies' table decorations. Her arrangement florally comprised St. John's Wort flowers, with leaves of *Cineraria maritima* and a few Grasses, that greatly suffered in contrast with a base of bright yellow drapery.

A remarkable feature was a splendid table of fruit set up by Mr. Hunt from the Park Gardens, of which we hope shortly to give an illustration. The table included three large epergnes dressed and laden with fruits, also Melons on plates, Peaches, Nectarines, and Grapes, the whole being dressed with flowers and a few nice Palms.

CRYSTAL PALACE CARNATION.—JULY 21ST.

THE National Carnation and Picotee Society (Southern Section) held its exhibition in the northern transept. The Show, as a whole, did not strike one as quite up to the average, either in quantity or quality, though there were notable exceptions. The large classes of bizzarres and flakes were the worst offenders, both in entries and quality, while the small classes were unusually well filled, the fancy and self varieties being most prominent throughout the Show, and gave abundant evidence of their advancement.

In the class for twenty-four Carnations, bizzarres and flakes, not less than twelve dissimilar varieties, there were seven competitors, but Mr. M. Rowan, Clapham, was ultimately placed in the premier position with a moderate exhibit. The varieties were—Back row: Admiral Curzon, Mrs. Douglas, Robert Houlgrave, Merton, Admiral Curzon, John Buxton, Robert Houlgrave, and Merton. Middle row: John Buxton, J. S. Hedderley, Mrs. Rowan, Sportsman, J. S. Hedderley, George Melville, Thetis, and George Melville. Front row: Wm. Skirving, Robert Lord, Sportsman, Gordon Lewis, Robert Lord, Mrs. Rowan, G. Lewis, and Thetis. Mr. Chas. Turner must have been very close for first place. The best blooms were Arline, Geo. Herbert, Duke of York, Admiral Curzon, Master Fred, Robert Houlgrave, Guardsman, and Chas. Henwood. Mr. J. Douglas, Great Bookham, came in third with good flowers of Melody, Lord Salisbury, Robert Lord, Flamingo, and Admiral Curzon. Mr. John Walker, Thame, was fourth; Mr. G. Chamndy, Oxford, fifth; Mr. F. Hooper, Bath, sixth; and Mr. H. W. Weguelin, Dawlish, brought up the rear.

The class for twenty-four selfs, not less than twelve varieties, was much better as regards quality, Mr. C. Blick, gardener to Martin R. Smith, Esq., Hayes, securing the first prize with an excellent display; the varieties were Cecilia, Commander, Ensign, Kara, Etas, Helmsman, Bomba, Sir Bevis, Miss Judith Harbord, Blushing Bride, Her Grace, Conqueror, Agnes Sorrel, Mrs. A. Gilbey, Benbow, Much the Miller, Dudley Stuart, Proserpine, and Michelet. Mr. Chas. Turner followed with a capital exhibit; his best varieties were Much the Miller, Vampa, Triumph, Comet, Dudley Stuart, Robert Bruce, and Orpheus. Mr. Jas. Douglas was third, Mr. J. Walker fourth, Mr. H. W. Weguelin fifth, and Mr. M. Rowan sixth.

The competition in the class for twenty-four fancies, in not less than twelve varieties, was very keen, there being again seven competitors. Mr. Martin Smith was placed first with a grand exhibit; the

varieties were Lily Duchess, Monarch, Goldyllocks, Bedemere, Aglaia, Falcon, The Day, Electra, Galileo, Guinevere, Heroine, Alexandra, Bedemere, Queen Bess, Hidalgo, Cervantes, Ossian, Sport, Voltaire, and Chas. Martel. Mr. Chas. Turner was second with a creditable exhibit; his best flowers were Vespasian, Lady Bristol, Galileo, Carloman, Heroine, and Potentate. Mr. Jas. Douglas was third with smaller flowers, Mr. F. Hooper fourth, Mr. G. Chaundy fifth, and Mr. H. W. Weguelin sixth.

There were five competitors in the class for twenty-four white ground Picotee blooms, Mr. Chas. Turner taking premier honours with a good stand, the heavy-edged varieties being especially good. The varieties were: Mrs. Gorton, Favourite, Brunette, Lady Emily Van de Meyer, Heart's Delight, Little Phil, Mary, Mrs. Payne, Duchess of York, Madame Picher, Etna, Aome, and a seedling. Mr. M. Rowan was second with good blooms of Little Phil, Nellie, Brunette, Mrs. Sharp, Muriel, and Lena; Mr. F. Hooper third; Mr. G. Chaundy fourth; and Mr. J. Walker fifth. There were again seven exhibitors in the class for twelve yellow ground Picotees, not less than six varieties. Here again Mr. Martin Smith proved invincible with a magnificent twelve. The varieties were: Argosy, Badminton, Dinorah, Duke of Alva, Author, Fenella, Empress Eugénie, Lady Bristol, Childe Harold (grand), Busybody, and Alcinous. Mr. Chas. Turner followed with good flowers of Galatea, Empress Eugénie, Volage, and Ouda; Mr. F. Hooper third; Mr. H. W. Weguelin fourth; Mr. J. Douglas fifth; and Mr. G. Chaundy sixth.

In the class for six blooms, one variety, self colours, Mr. F. A. Wellesley, Woking, was placed first with a fine exhibit of Mrs. Eric Hambro; Mr. C. Phillips was second with Germania; Mr. J. Douglas third with Trojan; Messrs. Thomson & Co., Birmingham, fourth with Britannia; Mr. Chas. Turner fifth with Lampa; Mr. M. Smith sixth with Hildegard. For six blooms, one variety, in the fancies there were nine competitors. Messrs. Thomson & Co. were first with a grand display of Voltaire. Mr. F. A. Wellesley followed with Monarch in fine form; Mr. Martin R. Smith third with Hidalgo; and Mr. Douglas came next with the same variety. Nine exhibitors staged in the class for six yellow-ground Picotees, Mr. Martin R. Smith taking first place with Lady St. Oswald; Messrs. Thomson second with Golden Eagle; Mr. A. W. Jones, Handsworth, third with the same variety; Mr. F. A. Wellesley fourth with Mrs. R. Sydenham.

In the second division for dressed blooms only twelve bizarres and flakes, Messrs. Thomson were first with a strong board. The varieties were Gordon Lewis, John Wormill, W. Skirving, Mrs. Rowan, J. S. Hedderley, Jas. Douglas, Merton, Master Fred, E. Rowan, R. Houlgrave, R. Bealey, and Sportsman. Mr. R. Sydenham was second with good blooms of Lord Salisbury, Merton, Master Fred, and Sarah Payne. Mr. C. Phillips, Bracknell, was third.

For twelve blooms, Carnation selfs, distinct, Messrs. Thomson & Co. were to the fore with Exile, Britannia, Mrs. J. Douglas, Mrs. E. Hambro, Miss A. Campbell, J. Douglas, Seagull, Nabob, Dick Donovan, Mrs. C. Sharpin, and Seedling. Mr. C. Phillips, Bracknell, was second, and Mr. F. A. Wellesley third. The competition was keen for twelve fancies, but Messrs. Thomson were again ahead with a capital board; the varieties were Voltaire, Seedling, Monarch, Golden Eagle, The Trip, The Gift, Eldorado, Group, Romaner, and Ladas. Mr. C. Phillips was a good second, and Mr. F. A. Wellesley third.

For twelve white ground Picotees Messrs. Thomson were again leading. The varieties were Amy Robart, Mrs. Gorton, Pride of Leyton, Brunette, Favourite, Fanny Tett, Isobel Lakin, Miriam, Mrs. Openshaw, Fortrose, Elizabeth, and Mrs. Payne. Mr. F. A. Wellesley followed; and Mr. A. J. Rowberry, South Woodford, brought up the rear. For six yellow ground Picotees Messrs. Thomson were again in the front rank with a box of clean bright flowers; Mr. F. A. Wellesley just behind; and Mr. A. J. Rowberry third.

The growers turned out in force for six bizarres or flakes. Mr. R. C. Cartwright was first with John Wormald, J. S. Hedderley, Master Fred, Gordon Lewis, Sport, and Eva Edwards. Mr. A. R. Brown was second, and Messrs. W. Pemberton & Son, Walsall, third. There were twenty-two exhibits for six selfs. Mr. R. C. Cartwright again taking leading honours with Her Grace, Minerva, Mrs. J. Douglas, Regina, Mrs. Eric Hambro, and Endymion. Mr. A. Chatwin, Edgbaston, came second, and Mr. A. R. Brown third.

There were eighteen entries staged for six fancies, Mr. S. A. Went, Thames Diton, was first with a good board, Mr. A. R. Brown was second, and Mr. R. C. Cartwright third.

In the class for a group of Carnations arranged in an area of 50 square feet, Mr. Martin R. Smith was deservedly awarded the first prize. The exhibit was truly worthy of the best traditions of Hayes: the plants were carrying a wealth of bloom. The best varieties were Volage, Joan of Arc, Sultan, Comet, Cordelia, Lollard, Golden Eagle, Taillefer, Talma, Alexander, and Narses. Mr. S. Carruthers, Reigate, was second with a fresh exhibit, and Mr. C. Turner third.

Messrs. Wm. Cutbush & Son, Highgate, exhibited an extensive display of Carnations in pots, chiefly of the Malmesbury type, though many of the popular border types were represented. The plants were fresh and healthy. Mr. G. W. Piper, Uckfield, again displayed their gold medal Rose Sunrise in excellent condition. It certainly possesses the merit of being a good garden Rose. Messrs. Barr & Sons, Covent Garden, contributed a display of hardy flowers, consisting chiefly of Sweet Peas, Potentillas, Lilliums, Spartium junceum, and Statice incana. Mr. G. S. Foster, Havant, staged one of his well-known displays of Sweet Peas, which were bright and fresh, considering the hot dry weather.

PREMIER BLOOMS.—Bizarre Master Fred, exhibited by Mr. R. C. Cartwright, of Birmingham. Flake John Wormald, exhibited by Mr. Robert Sydenham, Birmingham. Self Ensign, exhibited by Mr. Martin

R. Smith. Fancy Hidalgo, exhibited by Mr. Martin R. Smith. Heavy edged white ground Picotee Lady Louisa, exhibited by Mr. Martin Rowan, Clapham. Light-edged white ground Picotee Fortrose, exhibited by Mr. R. C. Cartwright. Heavy-edged yellow ground Picotee Gertrude, exhibited by Mr. Martin R. Smith. Light-edged yellow ground Picotee Childe Harold, exhibited by Mr. Martin R. Smith.

CERTIFICATES.—First-class certificates were awarded to Mr. Martin R. Smith for crimson self Sir Bevy, white Ensign, yellow Goldfinch, light-edged yellow ground Picotee Childe Harold, heavy-edged yellow ground Picotee Hesperia, and fancy yellow grounds Guinevere and Erasmus; to Mr. M. V. Charrington for scarlet self Sirdar, to Mr. E. Charrington for yellow self Lady Dora, and to Mr. T. Lord for heavy rose-edged white ground Picotee Mrs. Foster.

CUPS.—The silver cup, value £8, presented by the President of the Society for the highest number of aggregate points in the first division, was won by Mr. Chas. Blick, gardener to Martin R. Smith, Esq., of Hayes, Kent, but Mr. Blick having declined to take the cup—as being offered by his employer—it was awarded to Mr. Chas. Turner of Slough, the next in order of merit. The cup, value £6, for the second division, was won by Messrs. Thomson & Co., Birmingham, and the cup, value £4, for the third division, by Mr. R. C. Cartwright, Birmingham.

TAMWORTH.—JULY 21ST AND 22ND.

THE first Tamworth Flower Show, held under the auspices of the Mayor of Tamworth, who opened the Exhibition with a few well chosen remarks (Dr. Sculthorpe), the Chairman, and an influential Committee, and an energetic Secretary, Mr. James Stone, took place in the castle grounds. Two large marquees were required, and the offer of liberal prizes and of invitations to the trade to attend were responded to in a manner most gratifying to its promoters. Mr. Wm. Sydenham was represented by an extensive display of floral embellishments, including a beautiful arrangement of Violas and Roses artistically shown on rustic decorations, with also sprays of Viola and Sweet Peas, with herbaceous flowers, and to the whole of which was worthily bestowed a gold medal. Messrs. Barr & Sons received a similar award for a fine collection of hardy herbaceous flowers, as did Messrs. Jones & Son for a fine collection of Sweet Peas, and to Mr. S. Pye, Garstang, for a fine collection of Violas and Pansies. Messrs. Townsend & Sons were awarded a special certificate for a fine collection of Roses, chiefly Teas, in bunches set up in vases.

In the class for forty-eight Roses, distinct, Messrs. Perkins and Son were to the fore—a gold medal being given in addition to the prize. The second prize was secured by Messrs. J. R. Pearson & Sons, including a silver medal. For eight distinct varieties, three blooms of each, Messrs. Perkins & Son were again foremost, Messrs. Townsend & Sons a good second, and Messrs. Pearson & Sons third. For five sprays or trusses of Roses, as cut from the plant, Messrs. Pearson & Sons, Townsend & Sons, and Perkins & Son were placed as above. For twelve Roses, distinct varieties, Messrs. Perkins & Son were first; Messrs. Pearson & Sons and Townsend & Sons secured the remaining prizes. For six dark and six light Roses, the same order was maintained, as was it for twelve Tea Roses.

For twelve bunches of Sweet Peas, Messrs. Jones & Son, Shrewsbury, were placed first; Mr. G. Higginson, gardener to the Rev. A. MacGregor, second; and Mr. Bauche, gardener to Mrs. Baker, third. For twenty-four bunches of hardy perennials, Mr. W. B. Child well earned the first prize. For twenty-four blooms of Fancy Pansies, the first prize was secured by Mr. T. Naden, and the second by Mr. Rigby. For twenty-four sprays of Violas, six blooms in a spray, Mr. Brookes, gardener to Mr. Councillor Waters, was placed first with a fine collection. For the best table decorations in Roses, 6 feet by 4 feet, Mr. Johnstone, gardener to Mr. Chadwick, was the only exhibitor, and was worthily awarded the first prize.

In the amateur class for twenty-four Roses, distinct, Mr. G. F. Mear won first honours, the second prize going to Mr. G. Burton. For twelve Roses, distinct, Mr. G. F. Mear, Mr. G. Burton, and Mr. J. Lattibury were the respective winners. For six Roses, distinct, Mr. G. F. Mear was again first, Miss Edwards second, and Mr. G. Burton third. For twelve Carnations Mr. T. Wood and Mr. Johnstone were the winners. For six border Carnations Mr. Johnstone was the only winner. For twelve bunches hardy perennials the first prize fell to Mr. Johnstone, the second to Mr. Councillor Waters, and the third to the Rev. J. E. H. Blake. For twelve bunches of Sweet Peas Mr. Johnstone was awarded the first, Mr. G. Higginson the second, and Miss Edwards the third prizes. For twelve sprays of Violas Miss Edwards was the premier exhibitor, Mr. Johnstone second, and Mr. Councillor Waters third. For twelve Pansies, distinct, Mr. T. Naden, Mr. W. B. Fowler, and Mr. Johnstone were awarded the prizes as in the order named. For twelve bunches of annuals Mr. Johnstone and Mr. Councillor Waters were the prizewinners.

ATTAR OF ROSES: DECLINING SUPPLY.—The Rose harvest in Bulgaria (says the "Standard") and the distillation of oil of Roses are now completed. The quantity obtained this year is about 200,000 grammes less than last year's yield, the decrease being due to the drought. Estimating the value of a gramme of oil of Roses at 2½ fr., this means a turnover of half a million francs. The price of attar of Roses has risen rapidly this year, and in all the large towns of Europe the demand is increasing. Stocks, therefore, will soon be exhausted. In Bulgaria the entire quantity at present stored is estimated at only about 50,000 grammes.

THE YOUNG GARDENERS' DOMAIN.

GLOXINIAS.

PERHAPS of all stove tuberous-rooted plants there is none to equal the Gloxinia. The flowers range through all colours pertaining to red, blue, and white, the spotted varieties also being very beautiful. They are especially admired by ladies, to whom the gorgeous colours appeal very strongly. Great improvements have of late years been effected by cross-fertilisation and selection, in which good work Messrs. J. Veitch & Sons of Chelsea, and Messrs. Sutton & Sons of Reading, have played conspicuous parts.

Before the present strains existed the flowers were drooping, which considerably detracted from their beauty. To have secured the race as it exists to-day, an enormous amount of patience and energy must have been expended, and great praise is due to those whose untiring perseverance has effected such wonderful results.

The cultivation of the Gloxinia is not at all difficult provided abundance of heat and moisture are at command. In some establishments there is not the convenience one desires. A light, low span-roof house suits them admirably. Gloxinias may be had in flower for a considerable period if required by starting old tubers at intervals until all have broken, and after this, with a little forethought, by sowing seed at intervals as desired. Time must be allowed seedlings to ripen their tubers at the end of summer, as these make the best plants and develop the best flowers the season following. If not thoroughly ripened, however, failure will in all probability result.

Start the tubers in leaf mould in boxes, and place them in a warm house. Growth will soon commence, when the tubers must be put into 48's. The soil should consist of loam, leaf soil, and peat, two parts of the former to one of the latter, excepting in very light loam; then use less leaf mould and peat, some good sharp sand, and a sprinkling of soot. Broken charcoal helps to keep the compost sweet. Do not let the soil become sodden on any account. Syringe lightly twice a day when the weather is warm to prevent thrips securing a firm foothold.—W. J. M.

(To be concluded.)

FLORAL DECORATIONS.

FLORAL decorations are extensively carried out in most establishments with the aid of plants and cut flowers, and where large quantities of the latter are required daily it demands a considerable amount of skill and forethought to produce enough the whole year through. The arrangement of these generally falls to the foreman in large establishments, though occasionally a decorator is kept to do the work. It behoves every gardener or decorator to find out the plants and flowers most appreciated by his employer, and to grow these accordingly.

All foliage and flowering plants should harmonise with the dominant colours of the various rooms. Plants used singly in vases in different parts of the rooms must have vases that best suit the plants. For instance, never put a purple Streptocarpus in a blue vase, or a yellow Chrysanthemum in a yellow vase, or the effect will be very disagreeable. When fireplaces are kept filled during the summer months, the arrangement should be as light as possible. A tall Croton with several branches may be used in the centre, with Bamboos and green leaved Dracenas, and Lilliums, Spiræas, Vallotas, Kalosanthos, and bright scarlet Pelargoniums to brighten the whole.

Cut flowers look best when arranged with their own foliage, but there are exceptions, such as Orchids, Eucharis, and Pelargoniums, where no foliage can be spared. When several large Japanese Chrysanthemums are cut with long stems and put in tall vases, Nephrolepis exaltata fronds add greatly to their beauty; other greenery is, of course, admissible, and a splendid effect is produced. Maidenhair fronds are a useful addition to a vase of Shirley Poppies; but with Iceland Poppies, Aquilegia foliage looks more natural than Fern. Gypsophila paniculata and ornamental Grasses are useful adjuncts to many flowers.

Table decorations require a light hand and an artistic eye to be a success. If a polished table and slip cloths are used, tracing designs cannot be done, but Smilax may be hung in chains from the lamp shades or candelabra, and a little can be put on the ornamental cloth used in the centre for a change. Polished tables are not used in many establishments for dining, but with the flowers in glasses well arranged, they look very elegant, as, when looking at the table from a short distance, the portion not covered looks like a mirror. When a white cloth covers the whole table, many designs can be traced with Fern, Asparagus, Box shoots, bracken, Selaginella, and Carrot tops, using one sort of tracing only to carry out the design chosen. A few flowers of a corresponding colour to those used in the glasses should be laid singly on the tracing a few inches apart.

Begonia Gloire de Lorraine when grown and flowered in small 60-pots, makes a very charming table. Sweet Peas in mixed colours look well either for a luncheon or dinner table; especially beautiful and interesting are these when arranged in separate colours for a large party, say when twenty-four or more distinct varieties can be had. Roses, Orchids, Poinsettias, Freesias, Lily of the Valley, Shirley and Iceland Poppies, and Carnations are already too well known to need any recommendation. When the pink Malmesbury is used, its grand proportions and fragrance make a choice table. Ixias in mixed colours are beautifully light and graceful. What can compare with a large vase of these, well arranged, and cut with the full length of stem? The most suitable vase for these is one with a wide mouth and narrow neck. Crimson Rambler Rose is very effective by lamp light, and long branches arranged loosely in

large trumpet shaped vases with a frond or two of dried bracken and a long trailing piece of Asparagus plumosus nanus twined once round the narrow stem of the vase and reaching its base, look very beautiful.

I have by no means exhausted the many and various ways in which flowers can be arranged, but I advise every beginner to arrange all cut flowers as loosely and yet as effectively as possible, and to study his employer's tastes, which will be found to vary in nearly every establishment.—FOREMAN X.



FRUIT FORCING.

Malons.—*Stopping and Removing Growths.*—When the fruit is the size of an egg the laterals should be kept pinched to one leaf, and if this results in too much foliage, so that the main leaves are crowded or shaded, thinning must be resorted to. This should be done a little at a time, for removing a large quantity of foliage at once gives a check to fruit swelling. The plants ought to be gone over once a week at least, and in the case of vigorous plants twice, for stopping and the removal of superfluous shoots, never allowing the principal leaves to be crowded, but fully exposed to light and air.

Watering.—Never allow the plants to lack water at the roots, for when moisture is withheld until the foliage flags, a check has been given. The great point is not to allow flagging, and yet not give water until the soil is becoming so dry as to be insufficiently moist for the support of the plants, when a thorough supply should be given. Plants swelling their fruits will need water or liquid manure at least once a week. When setting and ripening it will suffice to keep the foliage from flagging, and if watering becomes necessary it must be given to those in frames without wetting the foliage more than can be helped.

Syringing the Plants.—When the flowers are advanced for expansion withhold water from the foliage, also when the fruit is ripening, as this is the chief cause of the fruit cracking. At the time of setting and ripening in frames and pits the atmosphere can hardly be kept too dry; in houses moisture must not be entirely withheld at those times, but floors and walls should be damped in the morning and afternoon in bright weather. When the fruit is swelling syringe well at closing time, and if morning syringing is practised it should be done early. Plants in frames may be sprinkled at closing time during the swelling of the fruit, but on fine days only, being careful to keep the water from the neck or collar of the plants.

Ventilating.—During the setting and ripening of the fruit admit air freely, leaving a little on constantly to prevent the deposition of moisture on the blossoms or fruit through the night. Give more ventilation early in the morning of bright days, always when the temperature has advanced to 75°, and gradually increase it with the advancing heat, keeping it through the day at 80° to 90°, and closing sufficiently early to rise 90°, 95°, or 100°, and before nightfall admit a chink of air at the top of the house or the back of the frame. This is particularly necessary in closely fitting and glazed structures; in badly constructed houses night ventilation may be dispensed with. Recourse will only need to be had to fire heat in houses, and to linings in frames in dull periods.

Vines.—*In Pots for Early Forcing.*—Where very early forcing is intended, the canes being started early in November to afford ripe Grapes during March or April, the wood should be thoroughly ripened and the buds plumped. If not the house must be kept rather warmer by day, say 70° to 75° artificially, and 80° to 85° with sun heat, closing early so as to raise the temperature to 90° or 95°, and throw the ventilators open at night. Afford water or liquid manure in sufficient quantity to prevent flagging, and expose the foliage to all the light possible. Laterals must be kept well in check, leaving no more than are absolutely necessary to appropriate any excess of sap and so prevent the principal buds being started. When the wood is brown and hard and the buds are prominent, the Vines should be removed to a situation outdoors, standing the pots on slates or boards in front of a south wall or fence. Secure the canes to avoid damage from winds, and only give water to prevent the foliage falling prematurely. In wet weather the pots may be laid on their sides, or some waterproof covering be employed over them. When the main leaves turn yellow commence reducing the laterals, and prune the Vines when the leaves are all off, the laterals being cut off close and the canes shortened to the length required. This done place them in a cool, airy, dry place until required for forcing. Keep moderately dry at the roots and exclude frost.

Early Forced Planted-out Vines.—These will now require a dry atmosphere to thoroughly ripen the wood, but it will not be necessary to employ fire heat. All laterals and late growths must be kept stopped, and complete rest afforded by having the house cool and comparatively dry. The borders inside may require water, but if they have been mulched it may not be necessary. A too moist condition of the border tends to late growth, hence lights over outside borders are serviceable in throwing off heavy rains. This is absolutely necessary to secure complete rest, so essential for Vines long subjected to forcing. A too moist condition of

the soil injuriously affects the young roots, yet there must be sufficient moisture to maintain growth on the laterals in order to prevent the premature ripening of the foliage. In most cases it will suffice to allow a moderate extension of the laterals. Where the Vines are in an unsatisfactory condition, prepare for lifting at an early date, procuring loam and clean drainage, so that the work can be done quickly when started. There is no danger of losing a crop, only operate upon a portion of the border at once—say, the inside one season and the outside the following. It is desirable to lift the roots and lay them in fresh soil nearer the surface whilst the foliage is on the Vines, therefore work of this kind ought not to be delayed in the case of Vines that are to be started early in December, which will need pruning by the middle of September, or in the case of lifted Vines a little later.

Successional Vines Cleared of Their Crops.—Thoroughly cleanse the Vines from red spider and dust by means of water from a syringe or engine, and repeat occasionally. Keep the laterals within reasonable limits. If the Vines are vigorous and the wood not ripening well keep the house rather dry, and ventilate fully at night; but turn on the heat by day, and ventilate moderately. This will tend to the maturity of the wood and buds. Vigorous Vines must not be stopped too closely, or the principal buds may be started into growth by excess of sap, and they may be kept without water until the foliage becomes a little limp. Vines, on the other hand, that are enfeebled by continued cropping should be encouraged to make growth by applying liquid manure to the border. Ventilate the house freely day and night, for it is mainly a question of evaporation in securing thoroughly ripened wood.

Grapes Ripening.—Give a good supply of water or liquid manure where the Vines are heavily cropped. Allow these time, and a good rest at night in a temperature of 60° to 65° with air. Permit the laterals to extend if possible. A moderate amount of air moisture is essential to the health of the Vines, sprinkling the floor in the morning and afternoon of bright weather or occasionally, always providing a circulation of rather warm air. This is absolutely necessary to avoid scorching and scalding, also spotting in Muscat of Alexandria and other tender-skinned Grapes, therefore admit air constantly enough, with a gentle warmth in the hot-water pipes to insure a circulation and prevent the deposition of moisture on the berries.

[THE KITCHEN GARDEN.]

Cabbage.—The first step towards securing a good early crop of Cabbages next spring ought to be taken during July. It is well not to depend upon one sowing, and also to have more than one variety. It is usually found the surest plan to sow the seed very thinly in shallow drills drawn 4 inches or so apart, and the plants raised thus may be moved direct to their winter quarters. But whether sown in drills or broadcast, the site should be well prepared by being broken down finely and well moistened prior to sowing the seed. If birds are troublesome either net over the seed bed or just moisten the seed in a damp cloth and then roll it in red lead.

Celery.—Waiting for wet weather before putting out the main and late crops is apt to prove a mistake. Left standing thickly in beds and boxes the plants become drawn and starved in appearance, and experience a greater check in transplanting than would have been the case if moved earlier. If the soil in and about the trenches is very dry and lumpy apply enough water to moisten it through, and soon after it may be broken down finely with hoe heads and rakes. Even if the soil in the trenches is fine but dry it is well to moisten it prior to planting, while the soil containing the roots of the plants should certainly have a good soaking before being cut out into squares. Water after planting, and if possible roughly shade for a few days with stakes and Pea haulm attached to them. All the Celery should be kept constantly moist at the roots, and if a heavy watering is not necessary it is yet well to freshen the tops with water in the evenings of hot days. Liquid manure should not be very strong when applied, and does the most good when it follows clear water given a day previous. Where the Celery maggot is apt to be troublesome spraying with petroleum and water three nights a week is a good preventive.

Endive.—If fully grown Endive for late autumn and winter use is wanted, and it is appreciated in most establishments, seed must be sown at once. The green curled forms are the first available for use, but the broad-leaved Batavian is the best for the main crop or storing. A fairly rich light soil suits Endive well. If a large seed bed is prepared, a portion of the plants that come up may be left where they are moderately thickly, and these will then prove self-blanching, and good for early cutting. Where there is plenty of ground available the seed may be sown thinly in drills 12 inches apart, and the plants being duly thinned out, a good crop will be had without much further trouble.

Leeks.—This crop, owing to its extreme hardness, ought always to be regarded as an important one. Very large stems are not wanted, unless for exhibition purposes, and the trench prepared as for Celery may be dispensed with in favour of the more economical practice of planting deeply and comparatively thickly. A cool, freely manured, deeply dug piece of ground suits Leeks, and when the plants are a foot, or rather less, in height they ought to be planted. If the ground about them is dry and hard, give enough water to soak it, and the plants can then be got up without badly damaging the roots. Make holes about 3 inches deep, and rather larger round than an ordinary planting dibber, about a foot apart each way. Drop a plant into each of these, not closing the holes, but merely fixing the roots by the aid of water.

Spinach.—Unless the first sowing of winter Spinach is made in July the chances are the plants will not be large enough to gather from before

the spring. Extra pains should be taken with the ground intended for this crop, manuring, digging, and redigging it with a view to destroying grubs. A light surfacing of newly slaked lime, stirred in with a Dutch hoe, would be of good service, especially if a dressing of lime has not been given of late years. After getting the ground into a finely divided state open drills a foot apart, water if dry, and then sow the seed thinly. Varieties that answer well in the summer are equally good for the winter crop.

Tomatoes.—Dryness at the root seriously militates against a good set of fruit. Plants rooting in rich ground, quite in the open, may not require watering, but in many instances they would pay well for attention, and also for a mulching of strawy manure. Those planted against sunny walls and fences rarely get enough moisture at the roots unless this is supplied artificially, and this season has been greatly benefited by two applications per week. These also should have a mulching of strawy manure. No superfluous growth must remain on the plants.

Turnips.—There should be no further delay in sowing Turnips on a comparatively large scale, as it is just possible roots resulting from later sowings will not be large enough for storing before frosts intervene. Soaking the drills with liquid manure prompts a strong early growth of plants.



STRAY SWARMS.

DURING a spell of excessive heat it is often difficult to control the swarming propensities of bees, and the past month has been no exception to the rule, as stray swarms have been seen in all directions. Where they have come from it is difficult to say, as in very few instances were they observed when leaving their hives. It is, however, not difficult to account for this, as when the sun is shining directly on the entrance to a strong colony and the temperature is high, the bees will swarm and go straight away without clustering, and as this can take place in two minutes or less, the only cause for surprise is that there are not more lost.

It is, however, somewhat discouraging to a beginner who has a strong colony working in supers to find the bees have swarmed and deserted their supers just at a time when honey was coming in freely. This may in a general way be prevented by shading, ventilating, and providing room in advancement of the bees' requirements. If this is neglected for only twenty-four hours, and queen cells are commenced, no after management will prevent swarming. If the swarms are not lost it is therefore advisable to use them in some manner.

During the past few days we have been consulted as to the best means of utilising numerous swarms and casts. We recommended putting two or more casts together, first sprinkling them with flour, allowing the queens to settle the matter of supremacy between themselves. It is also an advantage to unite a cast to a first swarm when it is desirable to control the increase. The old queen should first be removed; the colony will then be headed by a young queen. If they have been hived in frame hives the frames may be lifted out and placed alternately in a hive. If this is done quietly no fighting will take place at this season. Should there be any doubt in the matter sprinkle the bees with flour, which is much better than using syrup for that purpose, as the latter often causes robbing.

INTRODUCING YOUNG QUEENS.

It is a well known fact that to be successful in bee management attention must be paid to rearing young queens. If previous instructions have been carried out there will now be numerous young queens in the apiary ready for introducing to such colonies as require them. As has been often stated, a queen is usually at her best the second year, therefore stocks which are headed by aged queens, which in some instances will doubtless not have done as well as was expected should be removed, and a young queen hatched this year, and duly laying, introduced. It is important that the queen is fertile, otherwise she may turn out a failure.

There are various ways of introducing queens, and many elaborate cages are made for that purpose, but, as in many other things, the simplest way is the best. More often than otherwise when introducing a queen to a stock from which the old queen has been removed we do not use a cage of any description, but go quietly at night and turn back the corner of the quilt, and let the queen run down between the frames; they are then covered up again and not disturbed for forty-eight hours, when the queen in nine cases out of ten will be found all right.

Those who are nervous of this plan may make a cage out of a piece of perforated zinc, which will answer the purpose admirably. Take a piece of zinc about 5 inches square and turn down about half an inch of the edge at right angles. These edges are pressed into the comb which forms a cage for the queen. The bees will feed her through the small holes in the zinc. If liberated in about forty

eight hours the bees will take readily to her. If food is scarce feed with thin syrup for a few days. This will encourage breeding.—
AN ENGLISH BEE-KEEPER.

BEE-KEEPING A NUISANCE.—The right to keep bees in a congested district was contested in Bath County Court last week. A Miss Kerley sued her next door neighbour for £50 damages, caused her by defendant's bees. She was badly stung twice, and the bees frequented her garden to such an extent that she had to let it go practically out of cultivation. The jury awarded her £10, and the Judge granted an injunction with costs on the higher scale.



•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *s. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Death's Head Moth (W. C.).—The moth is the largest of the British kinds, the spread of the wings being, in your specimen, over 5 inches, and is called "Death's Head Moth," *Acherontia atropus*. It is nocturnal, flying at night, and abstracting nectar from flowers by means of its long proboscis. When alarmed it makes a sharp squeaking plaintive cry, not unlike the squeak of a bat or a mouse. It has also been charged with entering bee hives and sipping the honey. Its caterpillar feeds on Potato tops or the leaves of Potatoes, sometimes on common Jasmine, and also on the "Tea Tree" (*Lycium*). It usually hides by day, and comes out in the evening or at night to feed. When full grown the caterpillar is of great size, measuring 4 or 5 inches in length. Hand-picking is the best remedy, the caterpillar being easily seen in twilight or even moonlight.

Lady Downe's Grapes Blackened and Shrivelled (H. H.).—The berries are scalded. It occurs generally when the berries are more than half grown, finished stoning, and just before commencing to colour. According to Mr. Barron's "Vines and Vine Culture," page 98, scalding "is caused through late or imperfect ventilation on some bright sunny morning whilst the internal atmosphere, and even the berries, are saturated with moisture. The varieties most subject to this affection are Muscat of Alexandria and Lady Downe's." This accords with our experience. The only preventive is to admit a little air constantly, maintain a gentle warmth in the hot-water pipes, so as to keep the air of the house in motion, encourage evaporation from the berries, and prevent the deposition of moisture upon them. Then increase the ventilation early in the morning, not later than by the time the sun sets upon the house, and have it free during the day, especially the early part. This allows the atmospheric moisture expanded by the sun heat to escape, the berries to heat equally with the surrounding air, and they evaporating, instead of having moisture condensed on them, and afterwards heated by the sun or surrounding air, do not scald. The liability to scalding only extends over a fortnight or three weeks, for when commenced and advanced in colouring there is no danger of the affection—at least not in the case of Lady Downe's. The temperature from fire heat need not exceed 65° to 70°; the chief point is to give air, some constantly—i.e., all night—and increase it very early in the morning, or in advance of the sun acting powerfully upon the structure, then, or on dull days, keeping moisture from the berries. We have seen Vines syringed in the evening against red spider, and precautions not taken to ventilate through the night and increase it early the following day, the crop on Lady Downe's being consequently half or more scalded.

Book on Tomato Diseases (Regular Reader).—We are unable to give the title and publisher of the best book dealing with the diseases of Tomatoes, and particularly the spot and sleepy diseases. The various diseases have been from time to time treated of in our columns, and also illustrated from affected specimens. This was, presumably, before you became a "regular reader." Perhaps you have Mr. Iggudden's manual on "Tomato Culture," 1s. 1½d., post free, from the publisher, 12, Mitre Court Chambers. Like others of the most successful cultivators he does not go into a fright over fungoid and other enemies, but adopts the best preventive measures with gratifying success. His routine is described in the manual.

Bleeding from Stems of *Araucaria imbricata* (T. M.).—The trees that have had holes bored in them with a "½ inch bit" and are bleeding, or exuding turpentine or resinous matter very much, will probably die, especially if the fermentation be not checked. There is no evidence of any salt or chemical in what you send. We should eject methylated spirit into the holes and stop them with French polish and "tow," forcing into the bore-holes with a stick or iron rammer, and level with the outside of the wood, dressing externally over the stopping, and extending slightly over the bark with the polish, using a brush, and giving two or three coats so as to make all quite smooth.

Muscat of Alexandria Grapes Diseased (Jardinère).—The Grapes are both shanked and scalded. The shanking affects the footstalks of the berries, causing them to wither and die, and the berries cease swelling—if affected early, turn brown, shrivel, and fall. The shanking also affects the branchlets of the bunch, causing the stem to wither wholly or in part, when the berries also shrivel more or less, just as the sap is cut off. Scalding affects a part of the berry, not often the whole, the flesh shrinking and forming a deeply depressed patch on the berry, this turning brown or black, while the rest of the berry remains sound. The shanking is caused by defective root action, for which there is no remedy if the soil be sodden and sour, but lifting and laying the roots in more suitable material near the surface, providing thorough drainage. Of course, the border may be temporarily damaged from excessive supplies of water, want of lime, or other cause of a cultural character. We have known a dressing of best chalk lime, air-slaked, 1 lb. per square yard, make a considerable difference, especially by encouraging as much lateral growth on the Vines as could have full exposure to light. This procedure would not do any harm but good, therefore we should apply the lime forthwith, even if it were left on the surface, though it would be better lightly pointed in, but not disturbing the roots. The scalding is caused through late or imperfect ventilation, and is fully referred to in reply to "H. H.," in this week's issue. The drip from the roof should certainly be rectified, the putty being probably defective, or the glass and woodwork out of repair.

Diseased Hawthorn and Beech (Fungus).—The Hawthorn is affected in the current year's wood, leaves, and "haws," by the Hawthorn rust fungus, *Rozestelia lacerata*, and one of the worst cases we have seen. It is the oecidium or cluster-cup form of the fungus called *Gymnosporangium clavariiforme*, which—the teleuto spore layers—is produced on *Juniperis communis*. The oecidium form, *Rozestelia lacerata*, occasionally attacks Apple growths, leaves, and fruits, but is commonly met with on species of *Crataegus*, and occurs abundantly in smaller or larger groups on orange-yellow swollen blotches, though frequently, as in your case, covering large areas, especially on fruit (haws), and is usually accompanied by contortions and other deformations. The peridia or cluster-cups, are flask-shaped when young, later cylindrical cup-shaped, dirty white, rupturing longitudinally to various depths into numerous erect or somewhat outwardly inclined lobes. The spores are orange-yellow, giving that colour to the swollen blotches. We should spray or syringe the trees or bushes with hot water, 130° to 135°, and follow in the course of a week with a solution of sulphide of potassium (liver of sulphur), 1 oz. to 3 gallons of water. In the spring, before or when the buds commence unfolding, repeat the spraying with the solution of liver of sulphur, and spray again with the solution at a strength of 1 oz. to 10 gallons of water when fairly in leaf, again before flowering, and again or as soon as the flowering is over. Of course an eye should be kept on Junipers, and if they produce "cedar apples" or spumous yellow bodies, cut off the affected parts promptly and burn them. But we have repeatedly observed Hawthorn rust in great abundance in places where Junipers were not to be found within a wide radius. The fungoid-like growth on the Beech is the cottony flocculence produced by the Beech bug or scale, *Cryptococcus fagi*, which is very common on trees in some localities, and renders them "white from top to bottom." It has killed several large trees in many places where steps were not taken to prevent its spread. In no case of affection have we known the insect to spare its victim or the tree to master the attack. It is often confounded with Beech oermes, *C. fagi*, but this only produces patches of white flocculence here and there on the stem and branches, and, of course, mostly infests the under side of the leaves and causes their premature fall. The *Cryptococcus* or Beech scale, on the other hand, gives the tree a white scurvy appearance, and attacks every part, even the exposed roots, of the trunk and limbs. If you look at the scale you may perhaps see that the eggs exist in millions; the young hatch out from this time up to October or later, and not a few hibernate in the "shell" until the storms of winter have come and gone. The best cure, on a small scale, is treatment with methylated spirit, using a clean, half-worn, paint brush, and brushing down the trees from top to bottom, so as to wet the insects, their eggs, and the bark, reaching into the crevices. We have used this with effect on small trees, and also tar water, 1 part of gas tar to 1000 parts water, boiling the tar in a little water for about half an hour, and then adding the remainder of the water. On a large scale gas

Liquor from gas works, diluted with five times its bulk of water, and applied to the stem, limbs, and branches with a stiff brush, taking care not to allow running down, yet reaching into every crack, acts well on the pest if done thoroughly. The various advertised insecticides are also effective. Syringe with hot water, if nothing else can be had; but there is nothing like a brush, somewhat stiff, for scale, and that surcharged with methylated spirit, tar water, or gas liquor, as before stated.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. M.).—As has been many times stated, the last time on page 67, July 20th, Peaches and Nectarines cannot be named without fully developed leaves, and information as to the flowers being large or small. This information did not arrive till the fine, though crushed, fruit was decayed. It is probably the excellent variety Grosse Mignonne. There is a Nectarine named Balgovan. (G. H. F.).—1, *Solidago virgaurea*; 2, *Harpalum rigidum* Miss Mellish; 3, *Chrysanthemum maximum*; 4, *Veronica spicata*; 5, *Scabiosa caucasica*. (F. P.).—1, *Oenothera Lamarckiana*; 2, *Spiraea Billardi*; 3, *Polemonium oerulaceum variegatum*; 4, *Oenothera taraxacifolia alba*; 5, *Inula glandulosa*; 6, *Olearia Haasti*. (R. P. J.).—*Lælia crispata*; the Fern is *Adiantum Pacottii*. (H. M.).—1, *Asparagus deflexus*; 2, A. Sprengeri. (J. M.).—1, The Loquat (*Eriobotrya japonica*); 2, *Sedum glaucum*; 3, S. acre; 4, *Taxus baccata*, the common Yew; 5, Rose Campion (*Agrostemma coronaria*).

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Secretary, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—Secretary, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—Secretary, Mr. Brian Wynne, 8, Danes Inn.

COVENT GARDEN MARKET.—JULY 26TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, Tasmanian, case	13	0 to 20	0	Melons ... ..each	1 0 to 3 0
Cherries, $\frac{1}{2}$ sieve	5	0	8 0	" Rock	2 0 4 0
" cooking, sieve of 24 lbs.	4	0	5 0	Peaches, per doz.	8 0 12 0
Currants, red, per sieve	5	0	6 0	Pears, Californian, case...	6 0 8 0
" black, per sieve	5	0	6 0	Pines, St. Michael's, each	8 0 6 0
Figs, green, per doz.	3	0	6 0	Plums, per box... ..	1 6 2 0
Gooseberries, $\frac{1}{2}$ sieve	2	9	0 0	" Californian, case...	8 0 12 0
Greengages, box of 40 to 48	1	0	1 6	Raspberries, doz. punnets	8 0 6 0
Grapes, black	1	0	8 0	Strawberries, outdoor, bskt	0 6 1 6
Lemons, case	14	0	0 0	" peck	3 0 4 6
Nectarines, per doz.	8	0	9 0		

Arrivals of Cherries heavy.

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes, green, doz. ...	1	0	2	0	Lettuce, doz.	1	8	2	0
Aubergine, per doz.	1	6	2	0	Mushrooms, lb.	0	6	0	0
Beans, $\frac{1}{2}$ sieve	2	6	3	6	Mustard and Cress, punnet	0	2	0	0
" Longpods, $\frac{1}{2}$ bushel	1	0	0	0	Onions, bag, about 1 cwt.	4	0	4	6
" Scarlet, $\frac{1}{2}$ sieve ...	2	6	3	0	Parsley, doz. bunches ...	2	0	4	0
Beet, Red, doz.	1	0	0	0	Peas, per bushel	8	0	6	0
Cabbages, per tally	7	0	0	0	Potatoes, cwt.	2	0	6	0
Carrots, per doz.	3	0	4	0	" new	5	0	10	0
Cauliflowers, doz.	2	0	4	0	Shallots, lb.	0	8	0	6
Celery, new, per bundle ...	1	9	0	0	Spinach, per bushel ...	0	0	4	0
Cucumbers, doz.	2	0	4	0	Tomatoes, per doz. lbs. ...	2	0	4	6
Endive, doz.	1	6	2	0	Turnips, bunch	0	8	0	4
Herbs, bunch	0	8	0	0	Vegetable Marrows, doz.	1	6	2	0
Leeks, bunch	0	2	0	0					

Tomato trade firmer; arrivals heavy.

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	...	8 0 to 4 0	Maidenhair Fern, doz.	...	4 0 to 6 0
Asparagus, Fern, bunch	...	2 0 2 6	" bunch.	...	4 0 6 0
Carnations, 12 blooms	...	1 8 8 0	Mignonette, doz. bunches	...	4 0 6 0
Eucharis, doz.	...	4 0 6 0	Orchids, var., doz. blooms	...	1 6 9 0
Gardenias, doz.	...	1 6 2 6	Pelargoniums, doz. bunches	...	4 0 6 0
Geranium, scarlet, doz.	...	4 0 6 0	Roses (indoor), doz.	...	2 0 8 0
" bunch.	...	4 0 6 0	" Red, doz.	...	2 0 4 0
Iris, per doz. bunches	...	6 0 12 0	" Tea, white, doz.	...	2 0 8 0
Lilium Harrisii, 12 blooms	...	8 0 4 0	" Yellow, doz. (Perles)	...	2 0 8 0
" longiflorum, 12 blooms	...	4 0 6 0	" Safrano, doz.	...	2 0 2 6
Lily of the Valley, 12 sprays	...	8 0 15 0	Smilax, bunch	...	8 0 4 0
Marguerites, doz. bunches	...	3 0 4 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	...	6 0 to 8 6 0	Foliage plants, var., each	...	1 0 to 5 0
Aspidistra, doz.	...	18 0 8 6 0	Fuchsias, doz.	...	4 0 6 0
Aspidistra, specimen	...	15 0 20 0	Heliotropes, doz.	...	4 0 6 0
Boronia	...	12 0 18 0	Hydrangeas	...	6 0 10 0
Crotons, doz.	...	18 0 24 0	Lilium Harrisii, doz.	...	12 0 18 0
Dracæna, var., doz.	...	12 0 80 0	Lycopodium, doz.	...	3 0 4 0
Dracæna viridis, doz.	...	9 0 18 0	Marguerite Daisy, doz.	...	6 0 8 0
Erica various, doz.	...	80 0 60 0	Myrtles, doz.	...	6 0 9 0
Euonymus, var., doz.	...	6 0 18 0	Palms, in var., each	...	1 0 15 0
Evergreens, var., doz.	...	4 0 18 0	" specimens	...	21 0 68 0
Ferns, var., doz.	...	4 0 18 0	Pelargoniums, scarlet, doz.	...	4 0 6 0
" small, 100	...	4 0 8 0	Stocks	...	4 0 6 0
Ficus elastica, each	...	1 0 7 0			

Bedding out plants in variety from 8s. doz.



THE GREAT EXODUS.

A GREATER and more important movement than the one chronicled by the prophet Moses.

The effect of that exodus has been seen and felt, and we know all that can be known of it and its results. Of this other exodus we at present know little, nor can we divine where the end will be—of that our children will write and speak. It is only of late years that this movement has been observed, but now every day sees the circle widening and the travellers increasing. An active, trained, energetic man is soon roused, his lethargic neighbour slumbers on—you can rouse him, and then perhaps he requires a great deal of coaxing to become dormant again. He has got an idea and he keeps it, whether right or wrong.

If in the course of a long life a labourer migrated from one parish to another, it was the extent of his travels. Distance had no charm for him. His little world centred round his own church tower or within reach of his favourite chapel. All were his friends and early companions, he craved no other; he was shy of strangers, doubtful of their honesty, perfectly assured of their inferiority to himself and his people. The fields were his own by right of the tilling he gave them, and he desired nothing better than to work as his fathers had done on the same farm, the daily monotony being the joy of his life.

He knew of no other world save and except perhaps that far distant terra incognita America, and he considered those who went there were doing an awfully risky thing. They might return—they generally did not. Town life was to him abhorrent; the crowd, the noise, the hurry of life, dazed and wearied without gratifying, and he thankfully sought again his peaceful home. His aspirations for his sons were that they might plough a straight furrow, take the prize for the best built stack, and rise to the dizzy height of farm foreman or small working farmer. The girls could find places in the houses of the gentry, that were in many cases training schools in miniature. The vicarage, too, must be supplied, and the large farmers required useful strong servants to minister to the wants of the great household, consisting as they did of master, mistress, children, and farm servants, where all the baking and brewing was done at home, quantities of poultry reared, and sucking calves fed.

Take the village of to-day; go round to the houses of the best labourers; ask where their sons and daughters are. First look at the parents; all verging on middle age, no young lusty men among them. The young folks are scattered to the four winds; London gets the better half. Those who have taken kindly to education are now found in the schools, on bank stools, as shop walkers. Policemen are recruited greatly from what used to be the agricultural centres. Thousands go on "the line" in one capacity or other. The smart "light weights" turn to the racing stables, or become second horse-men, or dapper grooms. Some few take to the woods as keepers, and they continue most in touch with the land. Some others turn to

gardening, but all, or the greater part, leave the land. Village after village is depopulated. Those who have no particular bent take the mining districts; few become soldiers or sailors—the work is too badly paid.

The great grievance, too, is that those men who remain in the villages are inferior workpeople. Not only do they put less of themselves into their work, but they are so content with mediocrity—anything to tide the time over to bring round Saturday night.

This great exodus cuts two ways. The towns are getting over-filled; they teem with population: their people are content to crowd together to the utmost that the law will allow; they are lowering the vitality of the nation; they are weakening the physical forces—the race will, and is, degenerating.

People cannot live in close thoroughfares without detriment to health. Think of the poor puny babies, whose birthright ought to be, and was, fresh air. Compare the sturdy little rascal playing out in the village street or on the green with his pale attenuated brother of the alley. Think of the work in close shops and factories, and then think of the work under God's fair open sky. Think of what this means for future generations.

Then back again to village life. How is work going to be accomplished without hands? True, machinery can do a great deal, but we need guiding hands for the machinery. There is no machine yet to tend cattle; there is no machine to till and sow and reap without the aid of man; and the farmer's difficulties are getting most serious. In E. Anglia the question is a burning one; in the northern counties we are at our wits' end; we pay more than we can afford in proportion to our profits (save the mark!), and yet we cannot get adequate labour. Our cottages are improved; we have lessened the hours; we have minimised work; we have provided allotments; we have done our best, and yet our men leave us without apparent regret.

Is it the monotony of the country life? Is it the lack of excitement? What do they want? There is a craving which is fast becoming a disease—a disease which is affecting all classes alike—and the craving is for amusement in every form and shape. "All work and no play makes Jack a dull boy." But all the play that Jack gets now makes him a dissatisfied, fretful boy. The peasants of rural England have been the source of her glory. The peasant race is dying out, and we can do nothing to prevent it. Some few of the wisest and most far-seeing may be kept at home by the allurements of small holdings, but the work is too arduous and the remuneration too uncertain to attract the multitude.

There may be a reaction some time—we shall not live to see it. The pleasures (?) and advantages of town life may be too dearly bought. The nation is rather like a spoilt child, that must be allowed to have its own will; presently it will awake to the fact that it has made a great mistake, that it has clutched the shadow and lost the substance—got their pleasure, lost their stamina.

More money in the pocket is very pleasant, but as a woman was telling us the other day, the hand is never out of the pocket in the town. The shopkeepers strive to create artificial wants; things are tempting, and so cheap. Entertainments (also cheap) allure on every side—1d. here, 2d. there, the thing is done, money circulates. The man is individually no better, but rather worse, as he has acquired the habit of indiscriminate spending. Example forces him into much, his own inclination into more. The children learn the same habits, and no wonder, when they see their parents deny themselves nothing. If the pleasures and recreations were of an improving sort we should say less; but, putting that aside, men appear to forget that it was not for pleasure they were sent into the world. Work must come first; pleasure is a handmaid, not a mistress.

WORK ON THE HOME FARM.

The heavy storms of last week did serious damage to the best crops: one farmer has 60 acres of Wheat as flat as if it had been rolled, and all the most promising crops are terribly knocked about. Fortunately there has been little hail, and the rain has benefited the Barleys, which this year are almost invariably light. There has been only slight rain since we wrote last, and the hay harvest is now completed. The results both as to quantity and quality are about an average, but perhaps the quantity may be slightly below normal.

Potatoes have done well. Second earlies are now ready for lifting, and are a good size, better than last year, and of good quality. Prices are not good, and have a tendency to fall. The later, or we may call them the maincrop varieties, have just had the rain they wanted, and must now do well. Heavy July rains do Potatoes more good than in any other month. We hear a good deal of spraying, and no doubt on heavy and low-lying lands it may be a wise precaution to spray, but we fancy that on dry soils, as we have observed before, it is wiser to grow

only hardy and robust kinds, and leave them to make the best of natural conditions.

Some farmers are taking the lambs from the ewes, and it will soon be time that all did so. The best plan is to leave the lambs in their old pasture, and take the ewes right away to as poor a pasture as can be found. It is also advisable to keep them up at night for a couple of nights in a foldyard if a poor pasture is not available. A full belly and wet lair have a tendency to cause downfall in the udder—a very fatal disease amongst sheep.

The ewes must be most carefully watched, and the milk drawn from them if necessary. On the slightest symptom of hardness in the udder give 3 ozs. of Epsom salts, and half ounce of ground ginger in a little gruel, with 4 ozs. of treacle. The next remedy is the knife.

AUSTRALIAN AGRICULTURE.

ALTHOUGH the pastoral industry has long predominated in New South Wales, the increased attention given to agriculture during the last few years has caused a somewhat rapid extension of the mixed farming system, which appears to afford the best means of enabling settlers to successfully withstand the depressing influence of unfavourable seasons. The surface contour of the colony has been compared with portions of an unturned plate, the ridge representing the dividing range forming the table lands, with, outside, the coastal zone, and inside, the western districts or interior. Consequent upon the remarkably varied climates found in the colony, the products of cold, temperate, and sub tropical countries can be grown within its limits.

The coastal climate embraces an area of 88,200 square miles, with an average annual rainfall of 44.98 inches, varying from 64 inches on the coast to 31.48 at the foot of the dividing range. The northern portion is subtropical, the chief crops being Maize and Sugar Cane. From Macleay River to the south, with a cooler climate, the chief summer crops are Maize, oat hay, Potatoes, Lucerne, Pumpkins, Melons, Grapes, and other fruits; winter crops, Wheat, oat hay, and Potatoes, whilst dairying is largely followed.

The climate of the table-lands covers an area of 84,900 square miles, with an average annual rainfall of 30.84 inches, varying between 35 inches on the east to 25 inches on the west. The northern table-land, New England, grows Sugar Beet and all kinds of English crops. To the south Wheat is the chief crop, whilst dairying is extensively carried on.

The area of the western or interior districts is 187,600 square miles, with a rainfall varying between 21.6 inches at the foot of the range and 9 inches west of the Darling, and characterised by dryness, long hot summers, cool winters, irregular rainfall, and want of uniformity in the seasons. Near the range Wheat is largely grown, especially in the Riverina; Lucerne does well, exceptionally so under irrigation. The region is eminently suited for drying fruit, of which many kinds grow luxuriantly; the cost of transport is, however, an obstacle to production for other than local requirements. Most of the available land requires clearing. This costs from 15s. per acre in sparsely timbered country, up to £30 in the dense forests of the northern districts. Various labour-saving appliances have been introduced for pulling down trees and extracting stumps. The system of partially clearing land is sometimes followed; scrub and small trees are cut out, large trees being ringbarked. This accelerates the ultimate clearing, for when the trees become dry they are easily burned. Meantime the ground is cropped.

Metayage (lessee paying a share of the produce to lessor, in lieu of a money rent) is carried out here and there, in some cases with advantage. Direct ownership by the cultivator is, however, of the greatest benefit to him. Fences of various types are used in subdividing the land; those most commonly erected being post top-rail and six wires (costing up to £80 a mile), post and three or four rails, post and five or six wires (costing as low as £18 per mile where droppers are used for keeping wires apart, the posts being further apart than usual); sometimes logs are laid dogleg fashion. Where timber is plentiful fences can be erected very cheaply. Barbed wire is very largely used, and is invaluable for keeping in animals having a tendency to stray. Wheat is becoming a leading crop in the western and tableland districts, where Maize, Barley, Oats, and other cereals are plentifully grown. Roots and leguminous crops are abundant, also fodder plants of every description.

Many useful plants remain, however, neglected, especially fibre plants, oil producers, perfume plants, tanning materials, dyes, starch plants, insecticides (Pyrethrum and Hellebore are both largely used in the colony), and Willows, which could be planted along watercourses, and are found useful in a variety of ways. In fact, the agricultural resources of the colony remain very imperfectly developed, a result, in some measure, of the marvellous fascination exercised by the goldmining and kindred industries.—J. PLUMMER, Sydney, N.S.W.

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AMONG THE HARDY FLOWERS.

MANIFOLD are the joys of the heyday of summer, though even now we see it in its more mature aspect. The gentle flowers of the early time have given place to those of stately mien and more brilliant colouring. It seems only a dream to look back upon the time when the tiniest blossom which timidly gazed upward into the frowning sky was hailed with ecstasy. Amid the luxuriance of the time with all its opulence of growth and colour, we can only think of the present with all its charms.

Lovely indeed are the flowers of "light nodding Meadow Sweet, gracious as plume of gallant cavalier." Some of the Spiræas have passed away, but still with us are the masses of flowers of *S. aruncus*, so graceful yet so effective in a mass. By the little pool are the plumes of *Spiræa* or *Astilbe astilboides*, which look so well dangling over the water and mirrored in its reflecting surface. In the moisture it grows so happily and looks so pretty with the tinting of its foliage to add to its beauty that one can only think it better adapted for the moist margin of a lake or pond than for the dry border. Near it is *Hoteia japonica aurea marginata*, also in bloom with its white flowers. Between the two, and looking well in their companionship, is a pretty *Spiræa*, received as *S. purpurea*, with lilac purple flowers and pretty brown and green leaves.

Among the finest flowers of the time are the *Alströmerias*. Not every where will they grow, but the hardiness of many is greater than most people suppose. There are some lovely flowers among the species, and though we cannot consider *A. pelegrina* hardy enough for any except the most favoured places, there are enough left to serve our needs. Brilliant with its orange yellow blooms is *A. aurantiaca*; very beautiful is one known here as *A. lutea*, which only appears to be a variety of the former; while quaint and fantastic are the blooms of *A. psittacina*.

Nor can everyone fail to admire the tints given by the varieties of *A. chilensis*, and *A. revoluta* provides a deep orange colouring which looks effective in the border. This species is apparently as hardy as those preceding, but it has not, so far as one knows, been tested to the same extent. A few days ago, in response to a request, the writer had a very interesting note regarding the *Alströmérias* in the neighbourhood of Aberdeen. It came from an experienced gardener who takes much interest in hardy flowers—Mr. W. Angus, Norwood. He refers favourably to their behaviour in the north-east, and from the west of Scotland I have several correspondents who speak with enthusiasm about the *Alströmérias*. It must not be taken, however, that they will do well everywhere. Such is not the case. One's experience here is that some go off without apparent cause, and in a sandy subsoil they seem to dwindle away.

Many are the Lilies of the time in gardens where their fine blooms are appreciated. So trustworthy and so beautiful is the hybrid *Lilium testaceum* (syns. *excelsum* and *isabellinum*), that one hopes the newer hybrids will prove as satisfactory, though it can hardly be said that they are as beautiful. Yet there is much that is attractive about *L. Dulhansonii* and *L. Marhan*, both of which are hybrids of *L. Hansonii* and *L. Martagon*, although the former has for one of its parents the fine dark form of *Martagon* called *Dalmaticum*, and the latter comes from the white *Martagon* and *Hansonii*. *L. Burbankii*, Mr. Luther Burbank's hybrid between *L. Washingtonianum* and *L. pardalinum*, is giving satisfaction to those who have grown it this season. Now that the beauty of the Lilies is with us it will not entirely depart until the last blooms of *L. speciosum* sink into decay in the autumn months.

If the Lilliums are so beautiful, of fascinating charms are the Nymphæas. As one looks upon the few plants in one's own garden with their white waxen flowers, or beautifully coloured and tinted as only the hand of Nature can colour, we feel that we must urge upon others to grow the exquisite new Water Lilies of the day. Many are so handsome in their foliage and habit of growth that they would give pleasure from that alone, but when to this is added the glory of such lovely flowers, the combination is irresistible, and we drink in their loveliness with deepest enjoyment. I recently saw a little artificial lakelet in which, with ample space between, were Nymphæas *Marliacea albida*, *N. M. carnea*, and *N. M. chromatella*. There they were, little floating islets of exquisite leaves which were girt about and jewelled with flowers so fair that no words are at command fit to convey their marvellous beauty. On the smooth water, so mirror-like in their stillness, they floated.

Thinking of the ethereal loveliness of the Nymphæas, we look half-rebelliously upon that of gayer border flowers. In the border before me as I write there is a great branched yellow Mullein with whitened leaves. It is *Verbascum pulverulentum*, a noble species. It is only a biennial, but, as it sows itself when under favourable conditions, it is well worth growing where the Mulleins are cared for. A pretty one named *V. Lychnitis* was sent me from Carton recently, together with *V. Hookeri*, brighter yellow than *V. pulverulentum*, which is, by the way, also named *V. floccosum*.

Exquisite in many gardens now are Kämpfer's Irises, but in view of the appearance of Rev. J. B. M. Camm's enjoyable paper in the Journal one need only refer to them. Handsome yet are the Delphiniums, and when evening comes beside them open the pale, soft, yellow flowers of the biennial Evening Primrose, *Oenothera Lamarckiana*. This is finer than the ordinary *O. biennis*. Campanulas yet, and for some time to come, will yield us their cup-shaped or bell-like blooms. Hardy Orchids with spotted spikes look up from dampish spots. Geraniums add their share of colouring to the scene. Sedums and *Sempervivums*, twin succulents, with fleshy stems, upraise their flowers. There is a phalanx of floral glory in varied and motley array. Clematis, Lychnis, Coronilla, Scabiosa, Galega, Viola, Eryngium, Lychnis, Astrantia; these are their regimental names, but all support the reign of Queen Summer, with all its glory, its wealth, and its sweet enjoyment.—S. ARNOTT.

PINCHING FRUIT TREES.

MR. H. MITCHELL is a bold man, who evidently adopts a peculiar method of his own when conducting a controversy. On page 48 he has the audacity to record his experience with a Pear tree which has been pinched for ten years, and still remains barren; yet he would have us regard this as an argument in favour of summer pinching, because in ten years he has covered the tree with spurs having dormant fruit buds. But fruit growers strive to obtain buds which will blossom and bear fruit. Let us be fair, however, and make due allowance for the fact that the tree in question was planted under unfavourable conditions; but if, as Mr. Mitchell supposes, this tree could by "lifting and planting under the best conditions" be made to blossom profusely, why not do so instead of wasting more time in pinching, and valuable garden space in growing a barren tree?

"I think the more spurs we add to a tree, provided the tree is planted under favourable conditions, the more fruit buds are likely to be produced, and I shall go on pinching." With these pertinent remarks Mr. Mitchell concludes his article, which at least shows him to be a close observer if not a logical reasoner. Unfortunately for his arguments there are thousands of trees in this country which have been planted under the best conditions, and by constant pinching have been brought into a barren condition; too many spurs have been formed, the branches are a thicket of them, and need thinning freely to make such trees fruitful. Covering a tree in one instance with spurs, and in another with healthy fruit blossoms, are totally different matters.

Let it not be supposed that I am entirely opposed to summer pinching, as it is an excellent practice under certain circumstances. What is wanted is a clearer idea as to the extent to which it should be carried out on trees grown in various forms. The real value of pinching is in the case of trees grown on the restrictive system. Take, for instance, trees trained to walls. It is then necessary to secure fruit buds near the main branches, and in order to do that we must pinch and prune closely, because a tree naturally makes growth, and then forms fruit buds more or less throughout the whole length of long shoots, and at the points of short stubby ones, provided such shoots are kept thinly disposed to facilitate wood ripening. Now, in case of trees on walls, these shoots must at some time be shortened back, for the sake of rearing a trained tree. It therefore becomes apparent that we must coerce Nature into forming buds at the point required. Summer pinching and winter shortening will undoubtedly do this by concentrating the sap at the base of the shoot's. We train the tree in an artificial way, and must perforce result to artificial means of securing blossom buds close to the main branches. Let it be clearly understood that the pinching in such cases is performed, not to hasten blossom bud formation, but to secure such in the desired positions. To carry this system out successfully, root-pruning and spur-thinning must be periodically practised, or barren trees will in time be the inevitable result.

Now let us turn to bush or pyramidal trained trees, which may be regarded in exactly the same light as cordons on walls, except that the forms of the trees are different, as here again we aim at producing blossom buds close to a limited number of main branches, and to do this pinching and close pruning are necessary. This system of fruit growing is, however, totally distinct from what is known as the extension system, a method by which we grow trees in a more natural way in the form of standards or bushes, and allow fruit buds to form in a natural way, assisting Nature only to the extent of thinning the branches freely, or stopping a leader to equalise growth, and I am convinced that it is through not clearly recognising the distinction between these two systems that so many misconceptions have arisen in regard to summer pinching.

Carrying the matter a little further, we will endeavour to elucidate which of the above systems is productive of the best results for gardens generally. I unhesitatingly say the latter. For covering walls we must stick to the restriction system, unless appearances need not be studied, and for small gardens where a number or variety of Apples and Pears are required to be grown in a limited space, the system also offers great advantages, but for producing fine fruit in abundance with a minimum outlay in labour, the extension system cannot be beaten. I could quote many instances in support of this contention, but one will suffice. In one of the best managed fruit gardens in England twenty years ago all the trees were kept closely pinched and pruned, and were trained in so skilful a way that their equals could scarcely be found in Britain. Grand fruit was also grown which seldom took second place at the great shows, but the weak point was the crops were too light. Since that time the trees have been allowed to grow freely, no pinching is practised, but the branches are kept well thinned out, and some of them slightly shortened in winter. The same number of trees now produce three times the amount of fruit than they ever did under the old method of management, and the finest specimens hold their own against all comers at notable shows.

To all who desire to grow abundance of good fruit my advice is, Plant bushes, shorten the shoots in autumn till the requisite number of main branches (nine to twelve) are formed, then let such branches extend in all directions as long as they are kept thinly disposed. For a year or two many stray shoots will be produced in the centre of such trees; stop some of these early in July to three or four leaves, also any leader which has a tendency to grow stronger than the others. Early in September give the shoots a final pruning by cutting away numbers to within an inch of their base, so that every shoot left is fully exposed to light from top to bottom. Practise little shortening of branches in winter, and such trees will soon form fruit blossoms in a natural way, and will cease to grow strongly. When that stage is reached no summer pinching is necessary; the whole of the pruning needed is to thin the shoots in September, cutting away any worn-out ones, and leaving young shoots to replace them. This is simplicity indeed in fruit tree management, but I know of no other method by which such good results may be obtained.

In regard to the time taken to form blossom buds, Mr. Mitchell has allowed far too much latitude. Some of the early varieties of Apples will form such buds in one year, and many varieties of both Apples and Pears make growth and form blossom buds in two years.—H. DUNKIN.

AN INDIAN GARDEN IN WINTER.

I REALLY have almost scruples about entering upon this engaging topic, lest my pen should run riot and carry me beyond the bounds of prose, for it is long since I had such a delightful time as the cool and fragrant early mornings and evenings with my hostess, herself an ardent and appreciative lover of Nature, bird, and insect life, in that Indian home.

My friend's bungalow was at Bankipore in Bengal, he being the Commissioner of the district, and an extremely busy man at that. It was I think the very first evening that I made acquaintance with the smallest but perhaps favourite pet of the establishment, a beautiful little mongoose, and touching indeed it was to see the little creature coyly running about its mistress' vicinity and sometimes giving a pull at her skirts to attract attention. Its favourite pastime, however, was playing hide and seek with the spaniel puppy, an odder and prettier sight than which, I think, I have never seen. But it is with the birds and the flowers that we are chiefly to be engaged. My host being even busier than his usual wont owing to making up the famine returns for the terrible preceding season, and having the following week to receive the Viceroy, I found myself largely in the hands of my hostess. This gracious lady and I speedily found we had interests in common in the shape of the beauties of Nature and the attractions of animal life.

Oh! those early mornings replete with every charm of creation. We repeatedly made a practice of counting the various birds we could see at one interview, shall I call it, for really it was so. Many were so ridiculously tame that they hardly took the trouble to move as we glided through the parterres or picked our way along the irrigated plots. Some, of course, were much shier, and some we had to watch for carefully and by stealth, but the variety of colours, brilliant and electric, was remarkable to a degree. It was indeed a liberal education in itself, and my fair cicerone was a very able schoolmistress. When the time came for speeding the parting guest I think I was quite learned in the various kinds of parrots, the size, notes, and ways of the golden aureole, the gorgeous plumage of the red and green woodpeckers, the turquoise jays, hoopoes, green bee-suckers and numerous others of every possible shade of colour. I cannot enter here into the beauties of the butterflies which were also very numerous, as, too, alas! were the mosquitoes, which always somehow seem to get within your apparently impenetrable net.

What wonderful institutions, too, these Indian establishments are. My friends were rather quiet people than otherwise (though, of course, their position necessitated a certain amount of show and entertainment), yet his household consisted of about forty attendants, and remarkable are these same servants, the ones, that is, that you are likely to have to do with. The various bearers seem to be always gliding about behind pillars, on the verandah, or more often from apparently nowhere. Then the compound and the stables have plenty of interest; what with polo ponies, riding hacks, and tumtum cobs, you can well put in an hour or so in this department and learn a little extra Hindostani from the sycos, should you be disposed to increase your learning.

But I must hasten on to our neighbour "the Judge." This gentleman's garden was, I take it, perhaps exceptional, as he was famed round about for his flowers, but such Roses I certainly have never seen anywhere else. It struck me that even the finest specimens one sees at the large exhibitions at home in England would be nowhere beside such magnificent blooms as I saw in the greatest profusion here. Our friend seemed to have all the best known varieties of the queen of flowers; they were highly cultivated, no doubt, and

beautifully trained, but the secret apparently lay in the rich alluvial soil. The whole was irrigated; very close by lay the rich tracts of paddy and corn which enjoyed its annual flooding from the mighty waters of the adjacent Ganges, miles and miles of the flat plain being at that season under water.

The Judge had other flowers, too, in abundance, and was especially interested in which of those seeds that we usually grow in England would do also in India. A large consignment of Messrs. Sutton's choicest seeds had accordingly been sown and were being tested.

I have often thought of this charming spot as a kind of oasis in the scorching plains and burning heat of India's terrific sun, a recompense and a delight no doubt to the owner in his enforced sojourn in this distant clime.—J. A. CARNEGIE-CHEALES.

THE FIRST CHARGE.

THE initial difficulty is to get it, for though we look at the matter in the most favourable light the fact remains that one of the most disheartening times in a gardener's career is when he feels the time has come for him to leave the subordinate path of journeyman or foreman and take the responsibility of an establishment on to his own shoulders. I am no pessimist who votes life to be a failure, nor would I for one moment say anything to discourage the hundreds of young men who are to-day working on to the goal of headship; rather I would say, Go on, and win. But I have never yet met with a difficulty that is not made easier by probing to the bottom and finding out exactly how one stands. It is all very well to float with the tide if you are quite sure that it is flowing in the direction whither you would go, but if it is full of whirls and eddies which lead apparently nowhere, it is better to steer some definite course, even though the progress be slower.

Taken altogether the life of a probationer is far from an unpleasant one, no matter how he starts. He may drift into the garden as stoke-hole boy, and if he prove himself efficient at that it is a proud moment for him when he is promoted to the houses and a charge is allotted to him. There, if he has a love for gardening, there is enough to make life interesting, and after staying the orthodox two or three years he moves on to extend his knowledge and experience elsewhere. Life goes on pleasantly enough during these transitory years, for the consummation of hope is yet in the future, and our young man feels not the pressure of competition.

The years when a gardener has a chance of establishing himself are short and fleeting. The youthful would-be head does not often impress employers favourably when he has to take his chance against older men, and yet when the meridian is passed, and the downward grade has commenced, the chances are even less in his favour. In spite of the incessant cry of the hour, that this is the age of young men, it does not appear to have reached the ranks of gardeners, as it is a rare instance when you hear of a man under thirty being appointed to the charge of a fair sized and moderately paid establishment. Only run your eye down the advertisement columns of any of the leading horticultural organs, and the names will be seen of many who are realising the difficulty of crossing the line, and there are scores more in the same position who have not sufficient faith in the results to advertise. They are simply waiting and hoping that something may turn up. It is a commonly cherished idea among gardeners that the spring is the best time for openings; but the spring has changed to summer, and the names are still appearing, and I am afraid there are many unsuited.

And why is there such difficulty for the foreman or under gardener to obtain his first head place? Because the occupation is overcrowded, perhaps someone will answer. Quite so; and also because employers have a habit of passing by the young man in favour of the one who "has had experience as head," and there is no lack of the latter in search of situations. There is no doubt this is a drawback to the young man making his first effort. He may have excellent credentials and long experience to recommend him, but hitherto he has been a subordinate without sole responsibility, and the long and short of it is employers are afraid to trust him. Again, the usual step is from foremanship in a large establishment to that of head in one much less pretentious, the owner of which often gets an idea that a man who has been used to the routine of a large place is not the one to meet with his requirements, and in this respect the young man who is anxious to settle meets obstacles which tend to dishearten.

Yet in spite of it all he gets on if he is made of the right stuff; sooner or later Dame Fortune smiles on him, and then comes the trying ordeal, for the way in which a man conducts his first charge generally has important bearing on his future career. He finds himself playing a new part in the drama, with a hundred duties to perform which he has never known before; he has to work on his own initiative, and shoulder the responsibility. He learns that not only has he an employer to please, but he must steer a clear course through the numerous shoals that are well known to every gentle-

man's gardener. Our young man may find himself in a somewhat elevated position, in which it requires all his judgment to balance himself. Hitherto he has been hail fellow well met, with those about him, but now he has to take the reins of government. He can do it and retain his own self-respect, while he at the same time commands that of others, but the elevation has been too much for many a young gardener; they failed to keep the balance level, or to use a true gardener's phrase, "they got too big for the place." It is a great mistake, and therein lies a lesson which every journeyman should not fail to learn. It is well for every young gardener on taking over his first charge to put himself in the position of the newly elected candidate when his turn comes to make his maiden speech in the House of Commons. He knows that a great deal depends on it; the old parliamentary hands are taking stock of him, the reporters are grabbing every word that flows from his lips, the honourable gentlemen on the opposition are waiting to pull him to pieces, and that effort may mean a successful career as a statesman or—obscurity. It is the same with the newly made head gardener. He should think not only of himself and personal interests, but of the good men who have been his teachers. They will glory in his success, and speak proudly of him as "one of my young men," or be sorrowful at his failure. Yes! a gardener's most onerous undertaking is invariably his first charge.—G. H. H.

STRAWBERRIES IN 1899.

Now that the Strawberry season is over it is a good thing that we compare notes on our experiences. There is much to be learnt in this way; only a variety of reasons keeps us from doing it, I suppose. One great hindrance, I take it, is that after a man has had a long tiring day in the garden, he does not feel disposed to take the pen. A certain amount of laziness, quite excusable, specially if years are creeping upon us, makes us more disposed to sit down quietly with a book or paper, or dawdle aimlessly about doing nothing—"recreating." Again, humble minded growers like myself may say to themselves, "What does it matter what my little experience is? It is the large growers that ought to give their practices, and we little people can then benefit by them." Still, even a small grower may do something to help if he only gives a list of those varieties of Strawberries which do well with him generally, taking into account his soil, climate, position, and requirements. Because, whatever place a man has, whatever may be his surroundings, he has to grow Strawberries; that fact he cannot get away from, and if he has not the ideal Strawberry soil to grow them on, he has to grow them as best he can in the soil he has.

So accommodating, however, is the Strawberry plant that it will give some sort of results, and often very good results, from soils which are by no means those which a grower would practically choose; and also, if a grower determines to do his best, and he perseveres with energy and determination, and tries first one way of growing them and then another, and then one variety after another, a fair measure of success will be his reward.

The ideal Strawberry soil, I suppose, is a good brown holding loam, with a cool subsoil. Well, mine is not that, but a rather thin one generally, with a dry rocky bottom, though, standing as we do on the edge of what geologists call a "fault," we get a mixture taking the garden as a whole, and as I go on the three-year system I have a very mixed experience before I have got round the garden. What varieties, then, do well with you? The variety which has done best the longest is President; but I am beginning to see that even this constant and fruitful sort is deteriorating, "tiring," as we call it, "of the land," from a yearly propagation from the same plants, and I shall have to get in a fresh stock from some friend whom I can trust to set me up with the true variety.

But to begin at the beginning, and this year only, my first fruits were picked from Leader. My neighbour, Mr. A. H. Pearson, asks who will give a good word to Leader; well, I will for one up to now, and so satisfied am I with it that I am extending my plantation. Then, of course, Royal Sovereign must be included in every collection, either for market or for private family use. That is my judgment, and I cannot find words strong enough to press its claims to first place everywhere. President I have already mentioned favourably. Scarlet Queen has rather disappointed me this year, though the last two it was all that could be desired. John Ruskin has gone down in my favour, though for one or two seasons it stood high, but latterly it has shown on two and three-year-old plants a sad tendency to go "blind." In one case 75 per cent. of the plants were absolutely flowerless, otherwise it is a splendid cropper, and a fine jam Strawberry. King of the Earlies, with our old friend Black Prince, have given me large pickings for jam purposes; they are too small for table, except a few fruits now and then in an early dish.

James Veitch, at one time a great favourite, will have to go; one or two large fruits here and there do not pay for the land. Where

James Veitch does well it is immense. Monarch will take its place, and though it has the bad habit of going blind on plants here and there in the rows, it is a splendid cropper of fine and well-flavoured fruit. This (so I think), with Royal Sovereign, must be included in good collections. In the Allan series of Strawberries I have only a good word for Gunton Park, which has given me some very acceptable dishes this season, and will go on in our collection, whilst Lord Suffield will go out. With me this variety neither grows well nor fruits well. I had a few runners given me last year of that at one time much-talked-of variety Sir Harry, but it will have to go out of my list; its cropping is small, and its flavour and colour not inviting.

One good friend of the Journal, "N. N.," sent me from the north quite a large batch of runners last year of the Strawberry MacMahon, which he says is grown extensively in fields for market purposes in the neighbourhood of Alnwick, and I am so well pleased with its productiveness that I shall plant it in quantity. Before I close I must not forget to say a very good word for Newton Seedling. It is a splendid cropper, comes in after Royal Sovereign and President and the main crop varieties, is of bright colour, and though not of high sweet flavour, is yet very useful for table, and as a jam assistant not to be beaten.

It will be seen that my selection deals with those varieties which are useful as abundant bearers, rather than with the higher class table sorts, as British Queen, Dr. Hogg, and that strain. Sensational size and conspicuous quality I can do without, but quantity I must have, and so I shall go on planting those which fill my baskets rather than those which give a few striking fruits, being on the look out, year by year, for every new sort which satisfies my requirements or my soil.

I had written thus far before the Journal of this week (July 27th) arrived. I was immediately taken by the article by Mr. Strugnell of Roof Ashton, for whose practical ideas, always so well and temperately set forth, I have the greatest admiration and confidence in. I find that he has not the good word for Royal Sovereign that I have, and I hasten to say that I write as I have proved, on my soil only, though here, in the centre of the Midlands, there is quite a consensus of opinion in its favour, one market gardening friend of mine saying, "Grow Sovereign, if you only grow one variety, and stick to it."

I endorse one statement of Mr. Strugnell's entirely, indeed it is the key that unlocks and explains all the different judgments of gardeners on many things besides Strawberry cultivation. "Soil plays such an important part in Strawberry growing that it is not always safe to plant largely until it is known whether the ground is really suited to any particular sort." That is exactly my opinion, and that is what every gardener has to prove for himself, and therefore it is wise for him to go on proving year by year all the best sorts, and retaining only those which do well on his particular soil.

On the question of barren Strawberry runners I do not express an opinion, except that my experience is that it is safest to take runners from fertile plants, but I am quite sure that Mr. A. H. Pearson can hold his own without any assistance from me. I may say that there is a difference between taking runners from the "rogues" which will come occasionally in any plantation of Strawberries, and ordinary flowerless plants that occur now and then in some varieties. It is a subject that deserves ventilation, and the opinions of such observers as "the writer of the note" and Mr. R. McIntosh are welcome and much appreciated.—N. H. P.

STRAWBERRY LATEST OF ALL.

I was pleased to see Mr. Strugnell's appreciative notice of this variety. As he says, the crop it carries is marvellous, and I know of no other sort that fruits for so many weeks on end. It was ready here the same time as Monarch, Leader, and other second early ones, yet I am still—July 27th—taking dishes of it daily. The quicker the season as regards ripening the worse for such varieties as Latest of All that do not ripen quite to the point. I have a couple of rows in a cool moist position, and here the fruit ripens much more perfectly than in the open beds, where we would naturally expect it to do so. Like many other growers, Mr. Strugnell has found Dr. Hogg wanting, but here I could not do without it. On my heavy soil it is the finest flavoured Strawberry I have, and as an annual fruits grandly, though I must say not so freely as Latest of All. But one berry of Dr. Hogg is worth half a dozen of any other one I grow. Royal Sovereign does well here, and for home use I prefer it to Sir J. Paxton, as it is earlier and much larger, but the firm flesh of the latter fits it much better for travelling.

HEAVY STRAWBERRIES.

In reply to the Editorial note on page 71, I have this season gathered Royal Sovereign that weighed from 1½ oz to 2½ oz., and some I think were heavier than this. The largest berries were taken from a bed in the open from plants in their first year—i.e., planted July, 1898, in the early border. The first flowers were blackened by frost, and the second fruits were not so large. — H. RICHARDS, Coldham Hall.

*CATTLEYA HARRISONIÆ ALBA.*

ALTHOUGH there were considerable numbers of Orchids shown at the Royal Horticultural Society's Gardens at Chiswick on the occasion of the recent Conference on Hybridisation that were larger and very richly coloured, none was more attractive than *C. Harrisoniæ alba* (fig. 22). The typical variety is well known as a robust free flowering Orchid, with peculiarly stout rich rose-coloured flowers, and no further description of the new one is required beyond the fact that it is a true albino. It was exhibited by the Rev. Francis Paynter, Stoke Hill, Guildford, and received a first-class certificate from the Orchid Committee.

MORMODES PARDINUM.

M. pardinum is an Orchid which is seldom seen in collections, although its densely spotted, singular-looking flowers are very attractive. The plant, unfortunately, is of a deciduous habit, and does best in moderate-sized pans, using a compost of about two-thirds of peat to one of moss. Abundance of water must be supplied whilst in active growth, after which it must be gradually withheld until the plants become quite dry, and no more should be given, or at least only enough to prevent shrivelling, till they recommence growth. The flowers are borne on a spike 18 inches or more in length, and are of a clear bright yellow, densely spotted with rich brownish crimson. There are several varieties which differ only in colour from the type, of which the most distinct is perhaps the *pardinum unicolor*. They are natives of Mexico, and do well in the cool intermediate house with such plants as *Cattleya Mossiæ* and *Meudeli*, and flower at the present season.

LÆLIO-CATTLEYA EXIMEA.

It is often said that hybrid Orchids are too plentiful, and in many cases it would perhaps have been better had several which are inferior to their parents never been introduced. This is not the case, however, with *L.-C. eximea*, which was raised from *Lælia purpurata* and *Cattleya Warneri* by Mr. Seden, for Messrs. J. Veitch & Sons. A plant under my charge does well in a warm *Cattleya* house, in which *Cattleya gigas* thrives, potted in the compost usually recommended for *Cattleyas*. The sepals and petals are of a pleasing rosy purple; the lip resembles in form *Cattleya Warneri*. The colouring varies in different plants, but it is generally intermediate between the two parents, and usually of a brilliant rosy purple with an orange yellow throat. Unfortunately the plant is scarce.

CATTLEYA ELDERADO.

The better varieties of this species are very beautiful, and are valuable additions to Orchid collections. It is now fast pushing its spikes when the other *Cattleyas* are nearly over, and by its aid and *Cattleya gigas* we are enabled to make a respectable show until *C. aurea* and *C. labiata* are forthcoming. The flowers seldom exceed 6 inches across, and vary very much in colour, the most beautiful perhaps being *C. Eldorado virginale*, which is an albino with snow white sepals, petals, and lip, and a bright orange throat. *C. Eldorado splendens* is one of the most beautiful of the coloured forms, and is much brighter in colour than the type. There are several other varieties, which vary only slightly in colour from the type, and which it is not necessary to mention here. I find *C. Eldorado* does well under the same conditions as *Cattleya gigas*, although not being such a robust grower. The water supply, whilst in active growth, must be somewhat less; the plants flower much more freely when given all the light possible.—J. BARKER, *Hessle*.

PAPHINIA CRISTATA.

In this singularly pretty little plant we have an Orchid that may with advantage be grown by anyone having sufficient warmth at command. The flowers are very large for the size of the plant, and usually occur on twin-flowered spikes. The sepals and petals are really white in ground colour, but so closely covered with chocolate brown, that this colour greatly predominates. The lip is similar in colour, but very peculiarly formed, the tuft of club shaped processes near the top of the front lobe giving it a very distinct appearance.

P. cristata is rather more difficult to grow than some other kinds, the roots being very susceptible to injury if the compost is allowed to get the least stale or close. For this reason repotting has to take place oftener than is to their advantage, for no Orchid likes frequent disturbance. The very best materials only should be used in its culture, care in the selection of the peat being especially necessary.

I have found the roots like a small percentage of loam mixed with the peat and moss. The plants are best kept well up to the light, but the foliage is very tender, and judicious shading is required. *P. cristata* is a native of Trinidad, whence it was introduced by Mr. Knight of Chelsea in 1836.—H. R. R.

NOTES ON FIGS.

WHEN the second crop is gathered from the early-forced trees in pots they should be examined for red spider and brown scale, and now that the wood is firm there is less danger of injuring the foliage than at an earlier stage, hence an insecticide may be used for their annihilation more successfully. Dissolve 10 ozs. of softsoap in half a gallon of water by boiling, and add to it as soon as taken from the fire a wineglassful of paraffin oil, and stir briskly till thoroughly amalgamated. Dilute to 3 gallons for use, adding the water boiling, and when cooled to 130° apply with a syringe, the plants being laid on their sides and wetted thoroughly in every part, turning them round as required. If the wood is badly infested with scale employ a somewhat stiff brush to dislodge it whilst wet. Similar means may be used with the leaves, damaging them as little as possible. In bad cases repeat the treatment in a day or two, afterwards syringing thoroughly with tepid water.

The trees will need water only to prevent the foliage becoming limp, ventilating to the fullest extent day and night, but protect from heavy

FIG. 22.—*CATTLEYA HARRISONIÆ ALBA.*

rain, which has a tendency to keep the trees active instead of inducing rest. This is absolutely necessary for trees subjected to early forcing. For these considerations early-forced trees in pots should not be placed outdoors if there is any doubt about the maturity of the wood, and they cannot have complete rest if the weather prove wet. If placed outdoors it must be in a sunny position, and the pots stood on rough ashes, with finer about them.

Early-forced planted out trees will need enough air to insure a circulation constantly. If dull weather prevail gentle heat in the hot-water pipes will favour the ripening of the fruit, which is insipid or highly flavoured according to the heat and the air. Diminish the watering at the roots, and discontinue syringing directly the second crop fruit commences ripening, but moderate air moisture may be secured by damping the floor and border occasionally for the benefit of the foliage. If red spider give trouble heat the hot water pipes to 170° to 200°, and paint them with sulphur brought to the consistency of cream with skim milk, having the house closed, and keeping the pipes hot about an hour, then allow the heat to subside to the ordinary temperature. Repeat in the course of a few days to destroy any pests then emerged from the eggs. As soon as the fruit is gathered cleanse the trees thoroughly with the syringe from red spider, and maintain a free circulation of rather dry warm air until the foliage begins to fall naturally, but it must not be accelerated by allowing the soil to become very dry at the roots of the trees.

The fruit on trees in unheated houses is now well advanced to maturity, and in some cases ripening. Where it is swelling no pains

should be spared to keep the foliage clean by syringing in the morning and afternoon. Do not syringe, however, if the day is likely to be dull, or in the afternoon if there is prospect of the foliage not becoming dry before night. Under those circumstances damp the border, especially in the afternoon. Admit a little air early, increasing it with the sun heat, maintaining through the day at 80° to 85° with free ventilation, closing early so as to increase the temperature to 90° to 95°, and when the sun's power is declining a little air may be admitted at the top of the house, so as to allow the pent-up moisture to escape and the temperature to gradually cool. Supply water or liquid manure to the roots according to circumstances, so as to keep the soil in a thoroughly moist, but not sodden, condition.

When the fruit advances for ripening lessen the supply of water and discontinue syringing, securing a circulation of air constantly, and ventilate freely when favourable. Close early with sun heat, but afford a little ventilation to allow of the moisture escaping instead of condensing on the fruit and causing it to spot and crack.—GROWER.

ROYAL HORTICULTURAL SOCIETY.

JULY 25TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Rev. W. Wilks, Mr. Mawley, and Rev. G. Henslow, Hon. Sec.

Begonia, monstrous.—Mrs. G. Soames, of Welton House, Daventry, sent a peculiar blossom, with white petals and a large tuft of stigma, apparently a male flower, with the stamens stigmatiferous. Dr. Masters undertook to examine it further, and report upon it.

Helianthemum autumnale, proliferous.—Mr. Veitch sent specimens of this peculiarity, in which the heads had given rise to pedicellate smaller ones, the corollas being more or less virescent as well. It is remarkable that this species is peculiarly liable to this malformation.

Grapes with mildew—Cypripediums and Apple trees diseased.—The three following communications were received from Dr. W. G. Smith of the Yorkshire College, Leeds, on specimens sent to a previous meeting. A special and unanimous vote of thanks was recorded to him for his valuable reports. *Grapes with Mildew*.—"The mildew is undoubtedly caused by the fungus *Oidium Tuckeri*, so well known in this country as the common Grape mildew. On treating the Grapes and leaves sent in various ways the mildew continued to spread on the fruits, but never appeared on the leaves, which on receipt were very healthy. This supports Mr. Wright's opinion. Most of the authorities state that a dry heat is the chief predisposing cause. In the present case the sender believes that the outbreak is in some way related to the raffia fibre used in tying up. A sample sent had a white scurf here and there, but, under favourable conditions, this did not produce any fungoid growth. On examination with the microscope it consisted of fragments of plant tissues agreeing with the tissues of the fibre itself, and no doubt dried remains of parts of the plant partially destroyed in the maceration and drying processes by which the raffia is prepared for market. The dry fibre is an unlikely source of infection, but, if any doubt existed, it could easily be sterilised by boiling, or by steeping for a time in a 2 per cent. solution of corrosive sublimate or otherwise. The universal remedy for mildews of the *Oidium* kind is sulphur. A discussion on a hot-water method of treatment of the Vine mildew has been going on in the most recent numbers of the 'Gardeners' Chronicle.'"

Diseased Cypripediums.—"Some flowers were recently sent which were checked in opening, apparently due to a collapse of the lower part of the flower stalk. There were distinct signs of the presence of fungi, but it was not easy to say whether a mycelium was present or not. A request was made to the sender for portions of affected plants. These arrived in excellent condition, and at first sight looked as hardy as one might wish. The older leaves were very fine, and showed no weak points. The older roots looked rather more dried up than one might wish, but new roots in various stages were coming on, and quite healthy. The younger leaves, however, seemed weak, with a tendency to become discoloured. Acting on previous experience, these were allowed to dry up, and, as on some other occasions, they produced groups of tiny points—the pyrenidia of a fungus. It is from the rosettes of young leaves that the flowers arise, so that there may be a connection. On one of the specimens sent the flower stalk did not collapse, and the weakly younger leaves were absent from the shoot bearing this flower, though present elsewhere on the same plant. The fungus requires further investigation, but spores obtained were of the *Gloeosporium* or *Colletotrichum* type. *Gloeosporium cinctum* was described by Berkeley and Curtiss from Orchid material. The same species was recently worked through by Miss Stoneman, and placed amongst the Ascomycetes ('Botanical Gazette,' August, 1898). Mr. Masses described another Orchid fungus on the Vanilla ('Kew Bulletin,' 139, 1892). I have received various cases from the 'Gardener's Chronicle' of diseased Orchids, all indicating the presence of some form of fungus nearly related to *Gloeosporium*. The disease is known as an 'Anthracnose,' and seems common enough, but we still lack reliable methods of prevention."

Diseased Apple Trees.—"Twigs of Apple with leaves and flowers were received in June. After twenty-four hours in a moist chamber abundant conidia of the fungus *Monilia (Oidium) fructigena* were produced. This fungus is well known and at present the subject of much investigation, since it causes a wide-spread disease of the fruit (also to a less extent on the leaves and twigs) of Cherry, Plum, and Peach, less commonly of Apple and Pear. All the parts sent were affected. The flowers were

checked and withered; the leaves reddish brown, abnormally hairy, and somewhat crumpled. The young twigs were dry and brittle, with occasional patches of brown bark marked with darker bands running round the twig. Internal examination showed the mycelium in all parts. In the twigs, the region just under the bark was killed and full of mycelium, which could be traced from old to young shoots, and into flower stalks and leaves. In the absence of information we cannot suggest how the fungus gained access to the Apple trees. The fungus is generally regarded as the same form to common on Cherry and Plum, causing the fruits to shrivel up and remain hanging to the tree in a mummified condition. Keeping this in view it would be well to pay attention to the trees already mentioned, to gather any dried up fruits, and to burn them. Careful pruning and destruction of diseased twigs is also an excellent check. Spraying with Bordeaux mixture seems a likely mode of treatment, but the results as yet are not conclusive. A monograph on the fungus and disease is promised by Woronin in a recent note."—('Botan. Centralblatt,' lxxvi., p. 145.)

Stratiotes aloides.—A large specimen of this rare plant was sent by Mr. J. G. Rudd of Copgrove Grange with the following observation:—"This plant grows in a pond on my farm, and is smothering the Water Lilies. One of my horses has eaten freely of it, and died from its effects, so I shall be glad to know if it is poisonous." It is not known to be at all poisonous, as it is a very rare British plant, but it is possible that the sharp pointed projections down the edges of the leaf, as occurs on *Aloea*, &c., may have had a mechanically deleterious effect on the intestine.

Campanula, species and hybrids.—Rev. C. Wolley-Dod sent specimens of the flowers of *C. rotundifolia*, *C. rhomboidalis* and their hybrid progeny; as well as of *C. lactiflora*, both the typical flowers and with an abnormal sub-polypetalous form. The following communication was also received from him:—"The form of corolla with narrow separated lobes, described and illustrated by De Candolle, monograph of *Campanula*, pp. 11, 12, &c., and figured plate ii. A., and also described by the late Professor J. S. Henslow (see D. C. monograph, p. 12) is commonest in *C. lactiflora* (M. Bieb), in which it is always accompanied by narrow leaves. In *C. rotundifolia* it is commonest in broad-leaved forms, which I take to be hybrid, or are at least intermediate between *C. rotundifolia* and *C. rhomboidalis*. These abnormal forms of *C. rotundifolia* are fertile, and the seedlings come in part true, but always include many of the soldanelloid form—i.e., with a duplex corolla, which are also fertile. A study of *C. rotundifolia* and *C. rhomboidalis* (apparently quite distinct and good species) and their variously named intermediate forms which Godron in 'Flore de France' calls 'a little chaos of species,' leads me to think that *C. rotundifolia* may be a species gradually crawling into new species which are not yet sufficiently defined. In my garden the two species are united by imperceptible gradations, all of which are fertile. Forms having the characters of all the so-called species intermediate between these two may be picked out of them."

Sweet Peas, malformed.—A curiously flowered spray of Sweet Pea was sent by Mr. Pratt, Lion Gate, Richmond, every flower on the plant being similarly affected. An examination showed that the petals had remained crumpled up without having attained the usual subsequent expansion on blossoming. The stamens were twisted, but the anthers polleniferous, so that the stigmas were pollinated by "self-fertilisation," the flowers being, in fact, cleistogamous. The flowers were arrested in growth; but it was impossible to assign a cause for their abnormal condition.

Geranium foliosus.—A specimen of (apparently) *G. sanguineum* was received from Mr. Bunyard, in which the petals of the flowers were replaced by green leaves, the segments of which had remained conduplicate.

CONFERENCE ON HYBRIDISATION.—JULY 11TH.

The following is a list of the awards made by the Council of the Royal Horticultural Society on the report of a Committee of Experts.

GOLD FLORA MEDAL.—To Messrs. James Veitch of Chelsea.

GOLD MEDALS.—To Monsieur Duval of Versailles; Monsieur Maron of Brunoy; Sir Trevor Lawrence, Bart., Burford Lodge; Leopold de Rothschild, Esq., Gunnersbury House, and Mr. H. B. May of Edmonton.

SILVER-GILT FLORA MEDALS.—To Monsieur Morel of Lyons; Messrs. Jackman & Son of Woking, and to Royal Gardens, Kew, for a group of *Kalanchoe flammea*.

SILVER GILT BANKSIAN MEDAL.—To Mr. C. T. Druery, V.M.H., Acton.

SILVER BANKSIAN MEDALS.—To Professor Macfarlane of Philadelphia; Herr Van Tubergen of Haarlem; Dr. Wilson of St. Andrews; Sir Frederick Wigan, Bart., East Sheen; De Barri Crawshaw, Esq., Sevenoaks; Messrs. R. Wallace & Co., Colchester; and Messrs. Paul and Son, Cheshunt.

VEITCH MEMORIAL MEDAL.—To Mons. Duval of Versailles (class No. 6).

WILLIAMS MEMORIAL MEDAL.—To Leopold de Rothschild, Esq. (class No. 9).

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Secretary, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—Secretary, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—Secretary, Mr. Brian Wynne, 8, Danes Inn.



RECENT WEATHER IN LONDON.—The heat in London on Sunday and Monday was again intense, over 80° being registered in the shade on both days. Fortunately there was a light breeze. On Tuesday it was less oppressive, and at the time of going to press on Wednesday it was bright with a light wind.

CAMPANULA PERSICIFOLIA MONT BLANC.—This is a selected form from seedlings raised by Mr. B. Ladhams, Shirley, and is an improvement even on Backhouse's form of *C. p. alba grandiflora* in that the habit of growth is more compact and the blossoms are much larger, and more double. Single blooms of this new variety measure fully 3 inches across, and are of pure white. It is a magnificent border plant that all should add to their collection.—S. P.

CISTUS FLORENTINUS.—It would be difficult to imagine a more charming plant for the rockery in the month of June than this variety of Gum Cistus. In height it grows but 9 inches, producing a thick spreading mass of greenery, and when in bloom a dense sheet of pure white. The blossoms are of the size of a florin, each having five rounded petals; the centre of the flower is thickly studded with yellow anthers. Cuttings of the half-ripened shoots, inserted in a cold frame in August, should make bushy plants that would give some flower the following season.—E. M.

LATHYRUS GRANDIFLORUS.—This is one of the finest varieties of a popular flower which are not nearly enough cultivated. Too often they are planted in any out of the way corner, and allowed to struggle for existence. I rescued a tiny scrap of the above variety from a huge bed of common Laurels twenty years since in remaking our garden. An open position on a south border was given it, and now we annually have a clump from 8 to 10 feet high, and 6 feet through. Those who know and appreciate this class of Lathyrus will readily understand what a display of bloom is annually produced. The flowers are quite large, rose colour, tinged with purple. Cut in pieces 10 inches long they are attractive without their own foliage.—E.

DAY LILIES.—These have been remarkably good this season, the frequent showers having suited them, while there has been plenty of sun to open the flowers properly. *Hemerocallis flava*, the yellow Day Lily, is perhaps the best known, but there are others equally beautiful, though none possesses that delightful clear yellow tint as seen in this kind. *H. fulva* has large flowers of a tawny brownish hue that is not unattractive, and a finely grown plant of this species has a noble appearance in the herbaceous border. *H. Kwanso* fl.-pl. is very like it in colour. I am not aware if there is a single *H. Kwanso*. If so I should say it must be very like *H. fulva*. The newer *H. aurantiaca* major came along with a big purpose, but I must confess to being a good deal disappointed in it. As a pretty garden plant I much prefer the dainty little *H. graminea*, with its bright green foliage and graceful spikes of yellow flowers. It requires more care than the larger growers mentioned above, and a lighter soil, but is very pretty when well grown. *H. rutilans* is another pretty and very hardy kind that has a fine appearance in the front of an herbaceous border after many of the dwarf plants are over.—H.

BRISTOL GARDENERS' ASSOCIATION.—A large number of members assembled on Thursday at St. John's Parish Room, Redland, to hear a paper by Mr. W. Staddon on the History and Cultivation of the Apple. Mr. W. Lock, the Society's Chairman, some time ago offered a prize of 20s. to under gardeners for the best essay on any subject connected with horticulture. The competing essays were judged by Mr. W. W. Pettigrew, of Cardiff, who gave the premier honours to Mr. Staddon for the essay with which he favoured the Society on Thursday. The subject, which is full of interest to gardeners, was dealt with in a manner that showed the writer quite at home in his treatment of it, giving his views alike upon planting, propagating, pruning, training, feeding, and the value of the Apple, which he characterized as the king of fruits. A short discussion followed, and a very hearty vote of thanks was given Mr. Staddon for his effort. Prizes for Carnation blooms (six) were awarded Messrs. Ross and McCulloch, and the Society's certificate of merit given to Mr. Ross for a bunch of Grapes and Mr. Binfield for a plant of *Cattleya Rex*.

DELPHINIUM BELLADONNA.—This old yet valuable variety of perennial Larkspur is not cultivated nearly as much as it deserves to be. The colour of the flowers (pale blue) is almost unique in the garden at this season of the year. In height it grows 3 feet, and flowers profusely.—M.

PÆONY ALBERT CROUSSE.—Now that the family of herbaceous Pæonies is becoming so large we shall be better able to select such as are required for any special purpose. The above will certainly take a high position where delicate colours are preferred. The flowers are quite double and of a pleasing salmon pink, and like many more of this class deliciously scented.—B. W.

PEAS ON STRIKE.—Whilst round Pontefract district recently, I came across a noted local gardener, who pointed out to me several rows of Peas that were affected as if by a severe blight—the growth being completely arrested—and the crop a failure. Other good gardeners in the district, he told me, are similarly affected. The whole mischief appears to have been done (at all events in one instance) in a single night. Can any reader suggest the cause?—ANON.

THE NEW V.M.H.—We understand, though we have not been officially informed, that Mr. James Douglas has been placed on the roll of Victorian medallists in horticulture, filling the vacancy that was caused by the lamented death of Mr. M. Dunn. That Mr. Douglas is fully entitled to the honour few will dispute. He long since won his spurs as a successful cultivator in all departments of gardening, while he is the raiser of sterling varieties of fruits and flowers, and has freely communicated his knowledge to others through the agency of the Press.

CYPERUS.—"H. D.," in his article on *Cyperus*, page 71, appears to be a little mixed, so far as the Egyptian Papyrus is concerned, apparently confounding this gigantic species of the *Cyperaceæ* with the ornamental *Cyperus* in common cultivation. However, one is again afforded an opportunity of advocating the claims of that truly noble plant, *Papyrus antiquorum*, which is in its way unique as a decorative plant for a lofty tropical house. Again, it was from the stem (not the leaves) of this huge *Cyperus* that the Egyptians made their papyrus—presumably by unrolling the layers of tissue, in a similar manner to that employed by the North American Indians when converting the delicate bark of the Paper Birch to corresponding purposes.—K., Dublin.

GLOBE ARTICHOKE.—Mr. J. S. Upex sends us from Wiggantherpe samples of what is considered there a good strain of this much-differing vegetable. In the R.H.S. rules for judging the requirements of Globe Artichokes are "even size, rounded, scales well closed and fleshy," and in awarding points twice as many should be given to "solidity" as for any other property. Judged by the above standard the Wiggantherpe specimens would seem good enough for winning a prize in the best of competition. Mr. Upex described his method of culture on page 485, last vol.

TACSONIA EXONIENSIS.—For covering a glass roof quickly and making a fine display I know of nothing in the way of greenhouse climbers to beat this hybrid *Tacsonia*. On the roof of a glass corridor where it is very difficult to get anything to grow, this plant flourishes, and for at least six months in the year is more or less heavily laden with the fine showy flowers. As to culture it is simply a matter of planting in a good bed of prepared soil and letting it go. It must not be planted where space is limited, but in large conservatories or winter gardens it will clothe pillars and arches, the roof tie-rods or whatever else it is necessary to hide, and when in flower is strikingly beautiful. It may easily be raised from cuttings on a slight bottom heat.—B.

SOUTHERN COUNTIES CARNATION SOCIETY.—The second annual exhibition under the auspices of the Southern Counties Carnation Society, held on the Pier at Southampton, on July 25th, quite put its forerunner into the shade. Indeed, considering the brief time that has elapsed since the Society was formed the Show was little short of wonderful. No fitter place could have been chosen for the exhibition than the spacious Pavilion which adorns the Pier head, for the visitors were not only permitted to gaze upon the beautiful blooms within doors, but to enjoy a pleasant promenade or sheltered seat outside. The date of the Show was most convenient for many of the big showmen in Birmingham and elsewhere, and thus the quality of the exhibits was of the very highest standard. All were excellent, and to make distinctions would be quite invidious. In most of the classes six prizes were awarded, and the competition was most severe. These notes, with the prize list, have been forwarded to us, but we are quite unable to give a detailed report.

METHEOROLOGICAL OBSERVATIONS AT CHISWICK.
—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1899.										
July.										
Sunday ..23	N.N.E.	deg. 64.5	deg. 62.9	deg. 67.7	deg. 61.9	ins. 0.03	deg. 68.6	deg. 65.5	deg. 60.5	deg. 61.6
Monday ..24	N.N.W.	64.8	59.6	72.1	58.0	—	66.4	65.1	60.9	56.8
Tuesday 25	N.N.W.	64.7	56.0	78.1	54.5	—	66.2	64.7	60.9	44.9
Wednesday 26	W.N.W.	67.4	62.7	78.8	61.0	0.01	67.2	64.7	60.9	55.2
Thursday 27	W.N.W.	63.7	54.1	71.2	57.9	—	68.1	64.9	60.9	51.5
Friday ..28	N.N.W.	65.0	56.8	75.2	47.4	—	66.8	65.1	60.9	38.1
Saturday 29	W.	67.7	58.1	80.1	48.5	—	66.9	65.0	61.1	41.2
MEANS ..		65.4	58.6	74.7	55.6	Total 0.04	67.2	65.0	60.9	49.9

The weather has again been hot and dry, with strong winds from the north and west.

— **NECTARINE EARLY RIVERS.**—Every year this grand Nectarine increases in favour, and it has quite established itself as a popular variety. It does not seem to have a bad point; at all events, I have not discovered it, as long as it is properly treated. Like many another good plant it wants growing; and it would not be reasonable to expect any variety to perfect the immense crop of fine fruit that this does without being properly fed and nurtured. But keep it in health by keeping its roots near the surface, feed it liberally, and it is capable of carrying a heavier weight of fruit than any other variety I know, not excepting the well-known Lord Napier, while the individual fruits are magnificent.—R.

— **READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—A very enjoyable day was participated in by about fifty members of this Association when recently a visit was made to Gunnersbury and Kew. Much interest was manifested in the Water Lilies and fruit houses at Gunnersbury House, whilst the floral decorations at Gunnersbury Park were greatly admired, as were also the large Grape and Peach houses, all filled with excellent crops of fruit. Before leaving Gunnersbury, Mr. C. B. Stevens, the President of the Association, proposed a hearty vote of thanks to Messrs. Hudson and Reynolds for the interest they had taken in the party, and to Mr. Leopold de Rothschild for his kindness in allowing them to inspect his beautiful gardens, and for the hospitality so unexpectedly shown. Afterwards three or four hours were spent in Kew Gardens. The arrangements were carried out by Mr. Woolford, the Chairman of the Association.

— **GOOSEBERRIES AT THE DRILL HALL.**—Messrs. J. Veitch and Sons seem to be always beating records, and last week they sent to the Drill Hall the most excellent and representative collection of Gooseberries probably seen at any time. It was interesting to learn from their representatives that a table of four times the area could have been filled had space been at disposal. Gold medals are seldom awarded, but one was thoroughly merited in this case. I do not know whether Messrs. Veitch are the sole growers of so great a collection, but they seem to have every known variety. Of course no one wants more than a tithe of them; but whilst a Gooseberry bush occupies relatively little space, there is undoubted advantage in being able from a limited area to produce great variety in size, form, colour and taste for the dessert table. But the Gooseberry has a special merit, for it is practically everybody's fruit. The gardener to the Queen cannot grow better or finer fruits than a cottager, if the latter has the desired varieties and needful cultural skill. Throughout the whole range of cottagers' summer exhibitions the Gooseberry is always found prominent amongst fruits. It is certainly one of the most wholesome, and probably is of all hardy fruits the most profitable. Varieties only vary moderately in ripening periods, but it is easy to cover bushes, and thus cause the fruits to hang late if desired. But after all, attractive as were the 100 dishes of varieties of fruits, the background of bushes trained as fans, columns, and cordons seen at the Drill Hall was not least interesting. The fans had five stems, the columns or cylinders six stems, each one a cordon, and the true cordons but one stem. All these plants were heavily fruited, and indicated methods of trellis, stake, or wall training of the most desirable kind. Such an exhibit as this was should give a great stimulus to Gooseberry culture, especially for the production of fruit for home consumption.—A. D.

— **RONDELETIA SPECIOSA.**—At one time very common in stoves and warm greenhouses, this bright and effective plant is not at present grown as much as it should be. The brilliant flowers are nice for button-holes and various other decorations, and in a moist warm house the plants grow freely. It likes a firm compost of peat and loam, with a little manure and a good sprinkling of silver sand.—S. E.

— **THE FERNS OF NORTH-WESTERN INDIA.**—Mr. C. W. Hope, late of the Public Works Department, Government of India, who devoted much of his leisure time while in India to the study of Ferns, has, since his retirement, continued his studies at Kew, and is on the eve of publishing a detailed account of all the species inhabiting the North-Western Provinces and adjoining territories. This partially descriptive enumeration will shortly appear in the Journal of the Bombay Natural History Society, and will be illustrated by a number of plates.—("Kew Bulletin.")

— **GENISTA ETHNENSIS.**—This is one of the best of the tall-growing hardy Leguminosae, and also one of the latest to flower, commencing in July and lasting into August, making a good display with its bright yellow flowers, borne on slender pendent branches. Although it will flower in a small state, the best effects are obtained when it is allowed to grow to its full size, forming a slender bush 15 to 20 feet high. The branches are long and whip-like, and nearly leafless, each bearing a large number of small golden yellow flowers which have a scent strongly suggestive of Clover. From its slender habit it is of no use as a screen plant, as even a well-grown specimen can be seen through quite easily; but it is admirable for brightening a heavy mass of evergreens or to break the flatness of any particular part of a garden. Almost any soil will suit it, and it also stands drought better than most plants do. *G. ethnensis* is easily raised from seed, which ripens freely in this country, and forms better plants than those which are grafted or raised from cuttings. It will not, however, bear transplanting very well, so the plants should be put in their permanent places as soon as they are large enough. It is a native of Sicily and Sardinia.—C.

— **NOTES FROM DUBLIN.**—Exhibitors will note that the date of holding the autumn show of the Royal Horticultural Society is changed from August the 25th to the Tuesday previous, 22nd. The prize list includes many cups and money awards. For a stand of forty-eight tuberous Begonias, composed of twenty-four double and a similar number of singles, and at least eighteen distinct varieties, Lady Ashtown presents a silver challenge cup value £10, Lord Ardilaun (President) gives a challenge cup value £10 for the best stand of hardy cut flowers. A challenge cup, value 5 guineas, is presented by Lieutenant-Colonel H. Jarvis White, J.P., for twenty-four bunches of Carnations or Picotees; J. Hume Dudgeon, Esq., Merville, Booterstown, offers a silver cup for a collection of sixteen dishes of fruit, two dishes the limit for each variety. In all there are fifty-eight classes to be competed for, and the money prizes given by the Society amount to £92. Uncertain weather rendered Mr. Benson's open air performances of Shakespeare at Lord Iveagh's gardens practically abortive. It was sad, though amusing, to see the bustle when the rain descended rather heavily, actresses, actors, and the public, fleeing to some nooks for shelter.—A. O'NEILL.

— **THE EUCALYPTUS IN THE TRANSVAAL.**—In the neighbourhood of Johannesburg and Pretoria large areas of land are being planted with the Australian Eucalypti. The gold-mining companies have been for some time getting short of timber for their mines, and as the Australian Gums grow so rapidly, producing good, elastic, and durable wood, they have been planted in preference to any other trees. One plantation of 1000 acres, planted twelve years ago, had produced trees, two and a half years ago, ranging up to 40 feet in height, supplying good pit wood, girthing from 12 inches to 18 inches, and from 20 feet to 25 feet long; these were merely thinnings. The predominant species planted was Blue Gum (*E. globulus*), *E. viminalis* (the Manna-Eucalypt of the Dandenong ranges) ranking next in value. *E. robusta*, resinifera, and diversicolor have also been tried. In the winter of 1894 the young shoots of *globulus* were pretty severely cut with the cold, while *viminalis*, growing alongside, was not touched with 15° to 20° of frost. The plantations referred to are all situated on elevations varying from 4500 feet to 6000 feet above sea level. The soil is generally a poor red loam, much impregnated with iron. At an estate twenty miles from Johannesburg is a row of Eucalyptus trees, planted about twenty years. The largest specimens were 15 feet in circumference at 5 feet from the ground, with clear stems of about 55 feet without a branch, the full height being about 80 feet. The black and silver Wattles, also the Backwood, are being grown in the Transvaal.—("Indian Gardening.")



COMMENTS ON THE NATIONAL ROSE SOCIETY'S SHOW AT
COLCHESTER, JULY 6TH, 1899.

THE present year has been, as far as the National Rose Society is concerned, what may be called a very muddling one, and no stronger evidence of this can be given than the fact that the only provincial show corresponding to the northern show should have been held at Colchester on so early a date as the 6th of July. Of course it was not really a northern, but a provincial show, and in truth few northern men were present. It was fully expected (being held in Colchester, the very paradise of Rose culture), the exhibition would be exceptionally large and the flowers abnormally fine, while it was neither the one nor the other. We had no Roses from Scotland as in some years; Mr. Machin was not able to send any from the north Midlands, and Mr. Boyes of Derby only contributed a few, while the competition in several classes was of a limited character, and there were many blanks on the exhibition table.

There was a decided absence in the high-coloured H.P.'s which generally come out so strongly in the provinces; there were no very fine blooms of Horace Vernet and A. K. Williams, and of course this detracts from the beauty of the stands. I do not mean to say that there were no really fine flowers or good stands; there were such, but good as they were they were not up to the average. In the nurserymen's class the premier award of the Jubilee challenge trophy and the gold medal were awarded to Mr. B. R. Cant, who thus becomes the proud possessor of the two trophies for the year. In his Jubilee stand the following flowers were noticeable—Gustave Piganeau, Mrs. W. J. Grant, Marchioness of Londonderry, Helen Keller, Mrs. S. Crawford, Mrs. Cocker, and a fine bloom of that uncertain flower, Comtesse de Ludre. Messrs. Prior & Son were a good second with bright and fresh flowers.

The amateurs' Jubilee trophy again fell to the prowess of Mr. E. B. Lindsell, who thus again becomes the possessor of the two trophies for the year. This stand was unquestionably the best in the exhibition, although not equal to some Mr. Lindsell has shown in other years. The cup given by the Mayor of Colchester was won by Mr. Orpen. This, as might have been expected, was a grand exhibit, and the result must have been equally satisfactory to the donor and receiver.

The medal blooms were not very striking in character in the amateurs' divisions. The medal for H.P.'s was given to Mr. Orpen for a fine bloom of Her Majesty, and that for the best Tea Rose was awarded to Muriel Grubame, exhibited by Mr. Lindsell; another for the H.T. to La France, from Mr. H. P. Landon. In the nurserymen's division the medal for the best H.P. was awarded to a grand bloom of Prince Arthur, staged by Mr. B. R. Cant, who was also awarded the medal for the best H.P. with a fine bloom of Mrs. W. J. Grant. The medal for the best Tea Rose was awarded to Mr. George Prince of Oxford for a grand bloom of Maman Cochet. It is a very beautiful Rose, though grown as I see it in my own garden it seems wanting in first-class form.

The Tea division was, as might have been expected in an exhibition held in East Anglia, well filled. The Rev. A. Foster-Melliar's eighteen was exceptionally good, especially Madame de Watteville and Niphetos. The Rev. F. Page Roberts had also a beautiful stand of nine, and one was glad to find both of these exhibitors following up their successful efforts at the Crystal Palace. In the nurserymen's division of Teas and Noisettes, Messrs. F. Cant & Co. exhibited a fine stand in the class for twenty-four; amongst these were particularly noticed Golden Gate, whose name often misleads people who expect to see a bright yellow Rose, whereas it is cream coloured. In the class for twelves Messrs. Harkness & Sons had a good stand, obtaining first prize, while Messrs. Burrell & Co. were a good second. In the class for new Roses, Messrs. F. Cant & Co. came out first with a good stand, including both home and foreign raised flowers—amongst the most noticeable and least known of these were Madame C. Rany, a peculiarly coloured flower, Marguerite Appert, which are both foreigners; the latter a bright red Hybrid Tea, with large and pointed bud; Countess of Caledon, Ellen Drew, and of Mrs. F. Cant a flower which has greatly improved since its first introduction. Again there was no gold medal awarded for a new seedling.

Garden Roses as usual attracted attention, and although the Bath firm was absent from the competition, the place was worthily occupied

by Messrs. F. Cant & Co. In the amateurs' division Mr. O. G. Orpen was first with twelve, and the Rev. J. H. Pemberton a close second.

I may here conclude by quoting the opinions of one of our most accomplished and keen critics as to the whole character of the exhibition, and who has of late years attended, I believe, every one of our Rose shows, both metropolitan and provincial. "The show was not so good, either in extent or quality of the flowers exhibited, and there was much blank space on the stages which would have been filled had all the entries been forthcoming. Garden Roses were very sparingly exhibited, both in the trade and amateur classes, but if lacking in quantity the quality was of the highest merit, and perhaps finer stands than those put up by Mr. Orpen, the Rev. J. H. Pemberton, F. Cant & Co., and Paul & Son were never surpassed at any show.

"Owing to the peculiar season and the rough weather previous to the show none of the nurserymen exhibited in their best form, not even the Colchester growers, who had every advantage in exhibiting without a railway journey, and the same holds good in the larger amateur exhibitors, who were not up to their usual standard. The exhibition sadly missed the crimson H.P.'s, as there were no fine specimens of Horace Vernet and A. K. Williams, usually so excellent at the later shows of the National. None of the medal blooms was of striking excellence, although Mr. Orpen's Her Majesty and Mr. Prince's Maman Cochet were fine blooms, which stood the great heat of the tent well.

"Of the new Roses suggested to be included in the new edition of the catalogue of the N.R. Society, Madame Cadeau Ramey, Grande Duchesse Victoria Melita, Countess of Caledon, and Killarney showed to the best advantage. Mr. B. R. Cant exhibited a remarkable bloom of the latter, which for delicacy and freshness of colour was charming. If it proves full enough it will be one of the best Messrs. Dicksons have sent out, as the habit is very good and the plants wonderfully free blooming. Madame Eugène Bouillet, although of nice shape and colour, may be rather small for exhibition, and Marguerite Appert, a new red Hybrid Tea, although of capital size lacked shape, and will have to greatly improve before it can be called a good exhibition Rose. Mr. W. Paul's Empress Alex. of Russia, in addition to its great beauty of colour as a garden Rose, promises also to be of good exhibition quality when well grown, and its striking and novel colour shows to great advantage in a box.

"Two old exhibitors, the Rev. Foster Melliar and the Rev. F. Page Roberts, well maintained the high positions secured at the earlier shows with their Tea Roses, and exhibited remarkably well at this show. There were no seedling Roses brought forward in a condition worthy the gold medal, and it is needless to state that all the arrangements under such able management as that of Messrs. Orpen and Green left nothing to be desired, and although Colchester had the usual thunderstorms the attendance was good."—D., Deal.

WINTER-BLOOMING CARNATIONS.

AN article on these is honoured with a prominent position in a previous issue of the Journal (page 47). Is it not strange that the culture of this class of plant is not better understood, and their cultivation more popular? Can anyone name any kind of flower which is more appreciated than Carnations for buttonholes throughout the winter? The blooms are very lasting, varied in tints of colouring, and many are delicately perfumed. It must be admitted that several fail in their cultivation, mainly because the plants are over-watered, or not given sufficient air throughout the winter, but generally tree or perpetual-blooming Carnations are not so disappointing as the border varieties, especially in some positions. In some few gardens winter-flowering Carnations are grown extensively, and the blooms are highly appreciated. We have also some market men who grow large quantities, in some cases tens of thousands, but what a poor figure do these make beside the work of our "cousins across the water."

In America Carnations in midwinter are almost as popular as Chrysanthemum shows in November are here. The National Society's Show is held in February, and a very big affair it is. Blooms are exhibited in vases, with fifty or 100 of a variety in each. Just now a sensation is caused by the report of a speculator purchasing a stock of a particular variety for £6000. Some say this is an American way of doing "biz." However, the fact remains that millions of plants are grown in America, and every encouragement is given to the cultivation of the winter-flowering Carnation in that country.

With us no special encouragement is given, not even by the R.H.S., broad and extensive as are its actions. Occasionally an "award of merit" is made to a variety, but it is to be feared that such award has little or no weight with the market growers, or even the private ones, for whilst many can appreciate the good work done by the R.H.S., very few will admit that the Floral Committee has in its constitution many growers of the winter blooming Carnation, and the points of a variety from a market grower's view are not appreciated. However before long no doubt this useful class of plant will be much more generally grown, and it is hoped that the National Carnation Society will see its way to give this section every encouragement.—W. J. GODFREY, *Exmouth*.

BATTLE ABBEY.

THE scribe who essays to write of Battle Abbey for the *Journal of Horticulture* will find himself exposed to one very serious temptation, and that is to neglect the garden in favour of the historical associations with which the Abbey is so crowded. The records teem with interest, and almost embody a history of England itself in the days of Harold, the last of the Saxon kings. Though now the home of the gifted Dukes of Cleveland, the abbey has seen many owners and passed times that have been alternately troublous and fair. It has been deemed necessary by some occupiers to abolish portions of the ancient buildings, but enough remain to enchant the antiquarian and interest even the most superficial observer. For the botanist and the horticulturist there are a richness of variety and a striking difference from orthodox manners and customs, which will enforce attention and provide an infinitude of food for reflection for scholars in both the schools named. The former must have weeks allowed him to study the flora of the gardens, the grounds and the sur-

snow, rain and wind. And so one might go on in a general sort of way, and without a word of particularisation cover sheet after sheet; this, however, must not be just now, as there are so many aspects of individual merit as to necessitate the writer steering closely to the wind, and not having recourse to the journalist's salvation—padding.

No semblance of an excuse will be made for giving a few historical facts of the Abbey, which may not be known to all Journal readers, and will certainly not come amiss to a single one of them. It is not proposed to enter into a review of the successive dwellers, but to confine the references to the causes which brought about the erection of the extensive buildings, and to do this we must go back to the year 1066, just eight and one-third centuries ago, when Saxon and Norman met in deadly strife, and "the dales sent forth a gory stream . . . and the little dell of the Asten was choked and bridged over with the dead bodies." This extract is from her Grace the Duchess of Cleveland's "Guide to Battle Abbey" (Ticehurst & Co., Battle), who further proceeds, "well might men believe, as they did in former days, that the ruddy pools of rain water seen hereabouts (tinged by the ironstone in the soil) betokened a very bloody sweat of the earth, crying out to the Lord for vengeance of so great a slaughter."

The terrace on the extreme left hand of the photographic reproduction (fig. 23) looks upon a scene unique in historical interest. Speaking of this the "Guide" says:—"The whole of the field of the battle of Hastings lies mapped out at our feet, for we stand on the very crest of the position held by King Harold. It was over those heights to the east, still followed by the road from Hastings, that the Conqueror came. It was on that highest hill called Telham—of which the brow, crowned with a small wood, appears above the Fir trees close at hand—that he first caught sight of the Saxon camp, and raising his hand to heaven, vowed that if God should give him the victory he would there build a great abbey and chantry for the souls of the slain, that should be the token and pledge of the English crown . . . and to the west is the point from whence the Duke succeeded in turning the position and entering the enemy's lines, of which the centre, once denoted by the great Dragon Standard of England, lies behind to the left, on the spot now known as Harold's Chapel. It was along this hillside—then a bare waste, called by Ordericus 'the Thyme-clad field of Senlac,' that stretched the rude palisade of ash-staves, backed by its shield-wall, that formed the Saxon lines."

The principal entrance to the Abbey grounds is by a gateway from the main street of the town of Battle, and it "is considered one of the finest in the kingdom. It was built by Abbot Retlynge in 1338, somewhat in the style of St. Augustine's at Canterbury, and having had the rare good fortune to escape all tampering from restorers and improvers, there is not a more perfect specimen of its kind remaining to us. It can never be said to have suffered any injuries that called for reparation, as its history has been the peaceful and unmolested one that becomes a monastic building. No hostile shaft was ever discharged from its battlements, and

no enemy, except Henry the VIII.'s Commissioners, has ever stood before its gates. Even they left it unharmed, to be handled by no rougher touch than Time's, and he has dealt with it so tenderly and reverently, that its 500 years of existence have passed over without leaving a hostile trace behind them. All his work has been friendly. True, he has rounded the sharp edges of the mouldings, and here and there chipped off a flake of the sandstone, or broken a link in the tracery; but he has opened chinks and crevices where wild flowers and Stoncrop have seeded; he has planted a feathery crown of Grass on the porch of the south-eastern turret, and spread over all a fantastic mantle of Lichens, which add a thousand tints of colouring to the weather stains on the stonework." Without the gates is "the old bull ring, through which passed the rope fastened to the poor animal—a heavy iron ring, bolted to a great block of wood, further secured by two cross-beams buried in the ground." We might continue quoting the graceful lines from such a fluent pen, but must now turn to the gardens and the grounds.



Photo by

Algernon Brooker, Hastings

FIG. 23.—THE FLOWER GARDEN, BATTLE ABBEY.

rounding estate, while the latter would fill an ordinary notebook in recording the plants that customarily occupy, more or less, warm greenhouses which here thrive out of doors as "if to the manner born." No light task would anyone have who laid himself out to furnish a list of all the plant life at Battle, but were such forthcoming it would certainly astonish many excellent gardeners whose travels have not given them experience of this splendid climate.

The immediate neighbourhood of the noble structure, which William the Conqueror erected after the battle of Senlac, is overflowing with horticultural interest, and days could be profitably spent in investigations. The buttresses of the wall beneath the pointed end of the ancient Refectory and the intervening spaces are occupied with plants possessed of some striking characteristic, and it is only a few yards in front of the wall where *Acacia lophantha*, planted out three years ago, is apparently hardy, and at home. *Salvia patens*, in a bed beneath the wall, grows and flowers year by year, and suffers no ill from winter's changes of frost and

The diversity of scenery from the Abbey level is very considerable, and includes finely wooded hills, green meadows with, from one point, just a glimpse of the sea, some six or seven miles away. The park itself is splendidly wooded, though we learn from the Guide already quoted that none of the trees is of any great age. The lake shown in one of the pictures, and which, as one may readily see, is covered with Water Lilies, both yellow and white, is the first point of attraction in our trip to the gardens. It is not a large piece of water, but it is pleasantly situated, and has upon its banks trees and shrubs of beauty and interest. Luxuriating at one end is the Bog Bean, *Menyanthes trifoliata*, whose singularly beautiful bearded flowers Mr. Camm, the gardener in chief, finds extremely useful for decoration. It is one of the most charming flowers that can be grown for such a purpose, and it is a matter for surprise that it is not much more commonly employed. Here, too, are graceful Bamboos, imposing Gunneras, handsome Arundos and Glyceriums, the Stone Pine (*Pinus pinaster*), and several other plants in immense clumps. Not far from the Lily pool is a bed of Fielder's White Azalea, which, planted about fourteen years ago, survived frost, snow, rain, and sun, until the third week of last March, when the piercing wind cut it

Bignonia Chieri, *Rhynchospermum jasminoides*, *Habrothamnus elegans* (deep crimson in colour and always in flower), *Aloysia citriodora* (immense plants), *Tropæolum pentaphyllum*, *Escallonia montevidense*, *Solanum jasminoides*, *Physianthus albens* (fruits and seeds every year), *Passiflora corulea*, *P. Constance Elliott*, *Wistaria sinensis*, and *Ampelopsis* (on one of the towers), Fig Raby Castle, *Stauntonia latifolia* (a grand plant), *Ceanothus Gloire de Versailles* (which are pruned back in March like Vines), *C. azureus*, *Choisya ornata*, and a *Pittosporum*, besides many others that could be named.

A considerable number of these grow on the buttresses of the walls, the remainder occupying the bays. At the base is a broad border for the roots of the climbers, and here are accommodated plants, almost almost all of which are generally regarded as tender. *Salvia patens* and *S. gesneriflora* are perennial, and the roots do not suffer in the slightest degree during the winter any more than does *Crinum capense*. *Pentstemons*, *Gazania splendens*, *Tritonia aurea*, and *Hyacinthus candicans* were observed in different parts, and all were doing their duty well towards the general display.



Photo by

Algernon Brooker, Hastings.

FIG. 24.—LILY POND AND REFECTORY, BATTLE ABBEY.

down to the ground. From the remaining stumps one could readily see how excellent had been the plants, and this makes the disaster the more regrettable.

There can be little doubt but that the wall which extends beneath the Refectory (fig. 24) is one of the most interesting in the country. It is rich indeed in splendid plants that grow and flower yearly with the greatest profusion. For example, *Coronilla emurus* (?) is seldom without its bright yellow flowers, and *Weigela rosea* is superb and of an intensity of colour that is only too seldom seen. *Magnolia Soulangeana* flowers and fruits almost every year, while *Eccremocarpus scaber* was literally smothered with blooms; *Chimonanthus fragrans* is always welcome for its quaintly constructed deliciously perfumed flowers. On the end of the Refectory is a Wm. Allen Richardson Rose that produces splendid flowers of a wonderful line of colour, as do *L'Idéal*, the *Banksian*, and a red Rose of which Mr. Camm has been unable to procure the name. It is an old-fashioned variety, and one of the most floriferous I have seen. A charming combination is that of *Roses* and *Clematis* on one of the buttresses, where also are in simply remarkable condition *Erythrina crista-galli*, *Fuchsia corallina*, *Myrtles*, *Lonicera aurea reticulata*, *Medinilla suaveolens*,

Within the noble old Refectory in a scene of ruin and desolation, and yet one of charm to all beholders. *Clematis montana* hangs in graceful festoons from the walls, and lends attractiveness to the remnants of the structure. *Roses* and *Honeysuckle* ramble at will in various places, and *Valerian* occupies the embrasures of the windows, where it increases rapidly and flowers profusely. At no great distance from the Refectory is the position where Harold fell, and the Saxons ceased to reign over beautiful England. The spot had been handed down by tradition, and it was said that the grass would never grow there. Excavations proved the exactitude of the place of death, and disclosed the trefoil shaped high altar. Relative to this in the Guide to the Abbey her Grace says:—

"When we came here in 1858 it was choked with reeds, and more than half full of water. No attempt had ever been made to drain it, and the cement flooring retained every drop of rain that fell, forming a pond, often 2 or 3 feet deep, throughout the winter months. Even in summer the place was never thoroughly dry, and abundantly justified the description given of it by Lord Lytton: 'All forlorn and shattered, amidst stagnant water, stands the high altar stone of Battle Abbey; or the pathetic words of Sir Francis Palgrave: 'The "perpetual prayer" has

ceased for ever—the roll of Battle is rent. The shields of the Norman lineages are trodden in the dust. The Abbey church is levelled to the ground—and a dank and reedy pool fills the spot where the foundations of the choir have been uncovered, merely for the gaze of the idle visitor or the meditation of the moping antiquary. But it has since been cleared, and is now readily examined by the hundreds of interested visitors."

The Abbey itself is partially ancient and partially modern, and though the architecture is slightly different, there is a pleasing harmony over the whole. As a reference to the illustration (fig. 23) will prove, it is ornately handsome, and is adorned with numerous headpieces, emblematical of the various phases of life; some, of course, are grotesque, and others pleasing in their characteristics. Various portions of the building are well covered with such plants as *Roses*, *Camellias*, *Ceanothuses*, *Stauntonia latifolia*, which flowers in May and fruits in autumn; *Eucryphia pinnatifida*, *Olearias*, *Pernettyas*, *Cydonia* (*Pyrus*) *japonica*, and a splendid *Garrya elliptica*, about 80 feet in height. The formal garden seen in the picture is in the Dutch style, with its closely clipped Box edgings, between which are *Zonal Pelargoniums*, *Lobelias*, and other suitable plants. Mr. Camm takes somewhat drastic steps with the *Lobelias* to insure late flowering. Every plant is clipped down to the ground early in June, and this results in late, sturdy growth, with a profusion of flowers at the end of the summer. *Daphne indica* flowers and diffuses its fragrance near here, as does *D. laureola*, while the beautiful *Carpenteria californica* flowers year by year. Without the walls of the Refectory *Lapagerias* are to be seen in flower, with *Tropæolum speciosum* in one position looking wonderfully well. Splendid *Rhododendrons* grow on all hands, and in places are accompanied by healthy *Bays* and *Myrtles*. *Aralia Sieboldi* is an immense bush after years of open-air life; and *Dracena indivisa*, under similar conditions, is in the best of health.

At no great distance from the Dutch garden are the Lime and Yew walks, of which the latter is said to be 300 years old. The grass in this neighbourhood has all been planted with bulbs, *Snowdrops*, and *Aconites*, while not far distant is the Primrose garden filled with the choicest varieties. Cedars, Acers, and standard *Wistarias* are, with flowering trees and shrubs, excellent hereabouts. Immense clumps of rock *Roses* make a most pleasing effect when the plants are producing their charming flowers. Traversing cool and shady walks and passing what Mr. Camm terms *Camellia Lane* (an expression that calls for no elucidatory remarks) we enter the fountain garden, which is one of the most charming of its kind that I have seen. It is full of old-time flowers that grow with delightful profusion. Charming *Roses*, grand plants of *Lupinus arboreus*, *Fuchsia Riccartoni*, *Spiræa arifolia*, *Romneya Coulteri*, *Gauras*, *Colchicums*, *Iris*es, and scores of others assist the arches and pillars of *Clematis* to delight every visitor, another charming factor in the scene being the *Clematis montana* growing to the top of lofty trees. One could spend hours amongst the splendid *Hollies*, *Arbutus unedo*, *Buddlea globosa*, and the hundreds of others; but it must not be, as just a word or two must be given to other departments. For the two photos we are indebted to the kindness of Mr. A. Brooker of Hastings.

To reach the fruit and vegetable gardens and Mr. Camm's house it is necessary to pass over a long stretch of park land, and then go through a wood, and is in this respect unique, as (except a small kitchen garden in the middle of a wood at Bramham Park) I know of no garden in a similar position. And what a garden it is. Faultless in condition, and magnificently cropped, it is one of the best examples of intelligent cultivation that anyone could conceive. There are no haphazard methods of procedure, but definite lines are taken which are known to be followed by the most satisfactory results. So closely is the succession followed that hardly any bare ground is to be seen, as if this were not done Mr. Camm would find it extremely difficult to maintain an unbroken supply. There is the same excellence in the outdoor fruit, while *Grapes* and *Peaches* and *Nectarines* under glass are no whit inferior. The plant houses, too, are characterised by cleanliness of the structures themselves as well as of the plants within them, and though some of Mr. Camm's ideas are a deviation from orthodox lines, they are invariably followed by the greatest success. The position is one of responsibility, and necessitates constant attention on the part of the gardener, which its general excellence proves it to receive, and makes it a credit to the Duchess of Cleveland, as well as to the gardener and his staff.—H. J. WRIGHT.

PEACHES AND NECTARINES ON LOW WALLS IN HERTFORDSHIRE.

ON July 22nd I was agreeably surprised to see grand fruits of *Alexander* Peach, which I remarked as early and exceptionally fine for outdoors, and was informed by the grower that similar fruits had been forthcoming from a tree on a low wall (6 feet above ground) with a south aspect for a week, or since July 15th. This variety originated in the State of Illinois, and *Waterloo* hailed from New York; were introduced into this country by Messrs. Rivers & Son, Sawbridgeworth. The two varieties are often confounded with each other, but according to Wickson they are distinct, as follows:—

"*Alexander* (Illinois).—Most grown as best early variety. Fruit medium to large, greenish white, nearly covered with deep red; flesh firm, juicy, and sweet; bears transportation well; pit partly free."

"*Waterloo* (New York).—Medium to large, round; pale green,

marbled with red, flesh adhering partially to pit, greenish white, juicy, vinous. Not largely grown."

I have grown both varieties, and have found the fruit to sometimes accord with one and sometimes the other description, not on the same tree, but with trees named the one or the other, so they have evidently got mixed. I consider the "deep red" (*Alexander*) better than the "marbled with red" (*Waterloo*), for this with me on a south-west wall was given to "wart," and in consequence assume an irregular outline. Early *Louise* (Rivers).—A pale coloured and smaller fruit, does well on walls, and ripens with *Alexander*, or shortly after that variety. From its lighter colour it gives a pleasing change at dessert. The tree is also hardy and free bearing.

Hale's Early follows the preceding, being a medium sized fruit of the first quality and a freestone; after which *Rivers'* Early York, with a fine colour and exquisite flavour, takes up the running along with Dr. Hogg and *Crimson Galante*, both with colour enough and flavour for the most fastidious. Light colour, great size, and highest quality are found in *Alexandra Noblesse*. Who has tried *Goshawk* on the open wall? Then there is *Dymond*, or shall it be *Grosse Mignonne*? What says the Editor? Is it hardier, earlier, or in what is the difference? *Bellegarde*, *Violette Hâtive*, and *Barrington* have colour enough for most people, the fruits being large, melting, and excellent. To finish up with there are the *Princess of Wales*, *Gladstone*, *Sea Eagle*, and *Late Admirable*.

Of *Nectarines* there are *Advance*, *Hunt's Tawny*, *Hardwicke*, *Improved Downton*, *Balgowan*, *Goldoni*, and *Stanwick Elruge* for August and into September. Then *Darwin*, *Humboldt* and *Dryden*, with *Violet Hâtive* to follow, and the season closes with *Victoria*, which is not tender, only in a cold climate.

Of all outdoor fruits I think *Peaches* and *Nectarines* are the finest, and can now be had, thanks to cross-fertilisers, from mid-July to the middle of October by everyone with a 6-foot high wall facing south. Where? Nearly everywhere in England and Wales, also in many gardens in Scotland and Ireland, that are not too high, too cold, and too wet. In Hertfordshire *Peaches* and *Nectarines* thrive on substantial loams over calcareous and ferruginous gravels up to 400 feet above sea level, and those that require variety and wish to gain experience, can grow the trees as oblique or diagonal cordons at 18 inches to 2 feet apart or on the U system, figured some years ago in the *Journal of Horticulture*, at 4 feet distance asunder, or planted 12 feet apart, the space the trees are asunder on the 6-foot wall, from which the fruit alluded to was gathered this year in mid-July.

The wall has no particular projecting coping, and all the protection given consists of a double thickness of herring nets for the blossom and young fruit in the spring. There is no special treatment, just the ordinary keeping clean and cultural procedure practised for over 300 years in the British Islands. Why not utilise similar walls for growing *Peaches* and *Nectarines*, instead of occupying them with fruits that can be grown quite as well, if not much better, in the open?—SEXAGENARIAN.

[*Dymond*, as we have grown it on an open wall, was darker in colour and a little later than *Grosse Mignonne*, and the most certain in bearing of all in not the most favourable of positions. Have the two excellent varieties, like *Alexander* and *Waterloo*, "got mixed?"]

PEAT MOSS LITTER AND GARDEN CROPS.

ALTHOUGH I have had no very extensive experience with the above manure, I have used it freely for garden crops during the last eighteen months with good results. I have, however, often heard other cultivators complain that when used continually it sours the soil, and crops do not succeed in it. It is a very powerful manure, as the moss absorbs so much urine, and as the fibrous material decays slowly it is unwise to use it exclusively on any soil. I should advise "W. M." (page 6) to dress his soil with lime during the autumn, and next season rely on chemical manures. Air-slaked lime, if scattered between the crops during showery weather, would, I think, considerably improve matters this season.—H. D.

PEAT MOSS LITTER AND FUNGUS.

I MIGHT safely add to the above title insect pests, for these have to be included amongst the troubles of the gardener who has to use peat moss litter. I must admit I was rather pleased with the manure when it first came out, as there was no strawy litter about, and it made a capital top-dressing for flower and other beds; but now I can fully endorse all that "W. M." and others (pages 6 and 52) have said. Crops went off in an unaccountable manner, and diseases came that we never had before, and which have already cost a considerable sum to reduce, far more than many employers are aware of. In addition to this, I know more than one gardener who has had to bear the blame of crops failing through diseases caused by its introduction; and although peat moss is not used now in the district in which I live, the diseases are most difficult to eradicate. Lime has been applied, and we are in hopes of seeing good results from its application. I do not know if insect eggs were introduced with the peat moss; if not, it made an excellent breeding ground for them when used as a top-dressing. Cockchafer grubs, surface caterpillars, and wireworms were always abundant where it was used.—L. B.

CARDIFF SHOW.—Mr. W. G. Godfrey, Exmouth, writes:—"I would like to call your attention to the omission of my exhibit at Cardiff Show. It was the most extensive trade exhibit in the whole Show, and consisted mainly of *Cannas*, which were a very prominent feature. In one tent I had considerably more than half the space at disposal."

HYPERICUM MOSERIANUM.

THIS is a charming little hardy plant for late summer and autumn flowering, commencing in July and lasting well on into September. It is the result of a cross between *H. calycinum*, an Oriental species, and *H. patulum*, a native of China and India. In constitution *H. Moserianum* resembles *H. patulum*, and is therefore rather tender and liable to be killed to the ground-line by frost, though the roots are seldom injured. Such cutting-back, however, tends in a few years to so weaken it that young plants should be raised to replace any that are worn out. Cuttings taken in August or September, inserted in sandy soil, and kept shaded, will root in the course of two or three weeks. They should be left in the cutting pots through the winter, and in spring be potted and placed in a cold frame, and planted out the following season.

The flowers of *H. Moserianum* (fig. 25) are of a bright yellow colour, 2 inches or more across, with a cluster of stamens bearing bright red anthers in the centre. I do not know if it has ever been raised from seed, which is produced very sparingly, a few only being found in an occasional pod. If it could be raised from seed, and be obtained true, a hardier form might result, which would be a decided acquisition. There is a supposed variety with variegated leaves named *tricolor*, which is very useful for conservatory and house decoration. It can also be used with good effect in vases outdoors.—C.

EYNSFORD VIA SWANLEY.

To some men of Kent it will seem unnecessary to go through Swanley to reach Eynsford, but though it may increase the actual mileage to be covered, and take up a little more time, the extra exertion will have been well expended. At Swanley may be seen much that the most assiduous searcher will not find at Eynsford, and let us add *vice versa*. It is possible that every ardent horticulturist within a fifty-mile radius of London will have, at one time or another, included Swanley in his peregrinations in search of the wherewithal to adorn either his greenhouses or his garden, or both. Of course people without that imaginary circle have been gratified by the visit, while those whose homes are across the seas keep in touch with the "Home of Flowers" by the medium of the post, which now almost extends to the "utmost ends of the earth." Certain it is that the products of the Cannellian emporium have found their sometimes devious ways to every country where the love of gardening finds a place. Swanley Chrysanthemums in Australia and New Zealand have quite a vogue amongst our cousins, who, if they are prominent as cricketers, are also strong as 'Mummers, though in this respect it is probable our Meases and our Lees would be more than a match for the lions of the Australasian Continent. However, we are not likely to have a test match in Chrysanthemum growing within the next few years, so let us pass on.

There can be no doubt as to what the visitor's first words will be when he enters the precincts of the nursery. He will demand of the first person he sees, Where is Mr. Henry Cannell? And when he has found him, he may prepare to make mental or other notes of the interesting facts relating to horticulture that have arisen during the last half century or so. Mr. Cannell is generally easy to find, as he is not a great holiday maker; but he has this year so far neglected his business as to go for one week to his natal home near Norwich. He left the place in good hands, for his three sons have attained to man's estate, and are keen in watching the departments under their control. This, Mr. Cannell informed the writer, was the first real holiday for twenty-five years. So staunch a supporter of matters horticultural is he that he has become a fruitarian and a vegetarian, presumably because business is so pressing that he has not time to digest meat; and it is pleasant to be able to say that he looks thoroughly well on his diet. But this is somewhat of digression, as the object in view when the pen was taken in hand was to conduct the reader as expeditiously as possible to Eynsford via Swanley, and as our French neighbours have it, *revenons à nos moutons*, which is not perhaps a trite saying when a vegetarian is within hearing.

BRILLIANT BEAUTY.

Though this is by no means the best time of the year to see the Zonal Pelargoniums, they are thoroughly worthy of inspection. The grand plants, ruddy with the glow of health, are still producing trusses of finely formed pips, but the flowers have neither the colour nor the substance that are their most conspicuous attributes early in the year. Almost every variety that is put in commerce finds its way to Swanley, and is tried under the best cultural conditions, and those that come up to the standard are retained, while the inferior ones are relegated to the rubbish heap. Thus in the regular collection one cannot find a poor form either amidst the singles, the doubles, or the ever admired Ivy-leaved varieties. It is, however, in the dull days of the winter that Zonals are most acceptable for that brilliance of colour that goes far to brighten and make enjoyable many a cheerless day. The flowers, too, stand much longer at that time of the year than they do now, because of the much greater substance they possess.

Perhaps equally as bright, and certainly covering a far wider range of colouration, are the tuberous-rooted Begonias, of which there are many hundreds of plants in flower. A brief inspection suffices to prove the excellence of the strain, both with regard to colour, stoutness of

petal, and floriferousness of all the plants. In the case of double and single varieties alike the flowers average of considerable size, and in shades of yellow, orange, and apricot the colours are surprisingly lovely. Begonia Gloire de Lorraine is represented by an immense number of small plants, that will come forth in the winter to astonish and delight many observers. These, when they are exhibited, are shown in pots, while the Pelargoniums are staged in handsome bunches. Nor must we omit mention of the Cannas, towards the popularisation of which Mr. Cannell has done so much—indeed, he was one of the first nurserymen to give them a regular place in his catalogue. The varieties of to-day are vastly different from those of ten or twelve years ago, and they are now sure of the admiration of everyone.

BEAUTY OF LEAFAGE AND OF STRUCTURE.

Fortunately for the tastes of many people there are forms of beauty other than those provided by the plants producing brilliant flowers



FIG. 25.—HYPERICUM MOSERIANUM.

like those that have been named as well as others that will occur naturally to the mind. As a matter of fact such attractions do not appeal to some in the slightest degree, for they seek their ideals among the stately Palms, the elegant Ferns, or the quaintly formed members of the great Cactus family. Of these last named plants the collection is very comprehensive, including as it does all the best known forms, as well as others that are comparatively rare. Some of them certainly have slight pretensions to beauty, but others possess a singular charm, and appeal to almost everyone. After the blaze of Pelargoniums and Begonias the cactaceous plants came as a welcome relief, and found the writer in a better frame of mind to appreciate their quaintness than in his normal state. There are pigmies of 3 inches in height that of their kind are grown men, and there are, relatively speaking, giants, for the accommodation of which, if they become much loftier, it will be necessary either to raise the roof or lower the floor. Some are clothed with hair-like threads, and remind one of white-woolly-headed niggers, and others

have the character of spiny lamp-posts that would damp the ardour of the most incorrigible of climbing small boys. They are convenient plants, too, inasmuch as the cultivator may go away for a week or two, and return to find them little or none the worse for the neglect.

OUTDOOR ATTRACTIONS.

Beyond question these are too numerous to particularise. There are the hundreds of splendid Chrysanthemums standing in serried lines like regiments of grey coated soldiers, and they will do their duty well as the autumn days come round. There are no grossness of wood or flabbiness of leafage, but instead a sturdy, stout air of strength that augurs well for future fame. Begonias are planted out by the thousand, and will with favourable weather soon be making a brave show. The Strawberries were rapidly passing, but the perennial Sir Joseph was in evidence to carry on the supply after its more luscious sisters have finished for another year. The splendid grounds of herbaceous flowers might easily be made the text of a lengthy article, as also could the Rose and Dahlia gardens. Each of these is well stocked with plants in good condition, and those in the first and second named were gloriously beautiful, notwithstanding the fact that rain had for some time been conspicuous by its absence.

FROM SWANLEY TO EYNSFORD.

From Swanley to Eynsford there are more ways than one, and we chose that which would afford the greatest interest, and, it may be added, would take the longest time. With a strong horse, a comfortable carriage, and Mr. Cannell as driver and demonstrator, progress was not particularly rapid, but the drive was full of interest. Those who have the idea that all the fruit farming in Kent is excellent have only to traverse this short four miles to have their minds disabused of a fallacy. There is much fruit growing that is very good, and there is much that is very, very bad. Side by side may be seen the correct and the incorrect methods of procedure, the results of soil fertility and intelligent work on the one hand, and of soil exhaustion and studied neglect on the other. Some growers have apparently got the notion that if they make a hole, allow the roots of the tree to fall into it, throw a little earth on and tread it down, they have done their duty and the turn of the tree starts at once. This is not fruit growing, it is fruit neglecting and can never be profitable. But here we are at Eynsford, that thriving village where the cottager grows his bees, flowers, vegetables, fruit, and poultry, and will soon, if the indefatigable Mr. E. D. Till has his way, be producing his own cider.

THE ENGLISH SEED FARM.

The position of the Eynsford Nurseries for the production of seeds is eminently favourable, as they occupy the base and two sides of a mile long valley, which derives the full benefit of the whole day sun. Then the area is so great, approaching to 400 acres, that it is not a difficult matter to find positions suited to all kinds, and to isolate those that are particularly liable to insect fertilisation. Then the mechanical cultivation of the soil is of the very best, and it is enriched according to the requirements of any individual crop, so that these with proper after attention have every encouragement to the greatest success. The several acres of Peas formed a study of themselves, if only for the comparison of one variety with another. The time that was being spent in "roguing" each variety proves the desirability of the ruling spirit, Mr. Robert Cannell, to keep all stocks perfectly true. The acres of Onions, Parsnips, Beans, Carrots, Potatoes, Lettuces, Cabbages, Broccoli, and others are all subjected to the same rigorous treatment at their proper seasons. But the flowers make the most beautiful display, and prove by their condition the same intelligent care. Here and there may be seen plants with streamers of raffia, which denote that they are above the average, and that the seeds must be saved separately for home sowing next season, thus insuring the improvement of the variety each succeeding year. Which of the Sweet Peas, Asters, Stocks, Clarkias, Godetias, Linums, or the scores of others, were the best cannot be said, as all were as good as careful selection and the best attention could make them. One thing is very certain, that it is no longer necessary to go to Germany to see an Aster and a Stock farm, as there is one at Eynsford.

TREES AND SHRUBS.

The land is not all given up to seed growing, for the simple reason that space must be found for fruit and forest trees, as well as all kinds of shrubs. The fruits, of all kinds and forms, from the Strawberry to the trained Apple and Pear, look thoroughly well, and have every indication that the soil and the cultivation are quite suited to their tastes. Black, Red, and White Currants and Raspberries, particularly Superlative, are in enormous numbers, as are coniferous and forest trees of various kinds. But the end must be reached, and at once; and Eynsford, and its crops *en extenso*, must be left for another year, when further developments will be looked for, and in all probability found. For an instructive day thanks are tendered to Mr. Swanley Cannell, and to Mr. Eynsford Cannell, by—A KENTISH MAN.

BERBERRIES FOR PRESERVING.

NOT many persons utilise the common Berberry fruit for preserving, the stones or seeds being a serious objection, and the stoneless variety is not always reliable. Birds leave the berries severely alone till late in the season. Not so the berries of the Holly-leaved Berberis aquifolium, so extensively grown as a covert shrub, for they speedily disappear down the throats of the thrush family, while pheasants devour them with avidity. Boys also have strong inclination for tasting fruits, and it is curious to note how the "young idea" arrives at a decision as to quality. In a certain public recreation ground are thousands of *B. aquifolium*,

B. Darwini, and *B. dulcis*, or properly *B. buxifolia*. All the bushes are, or rather were, laden with berries. The fruits of the Box-leaved have almost all disappeared. Of course they are, or were, fewer and larger than the berries of the other two species, and they are also far sweeter and better in flavour. Next to these come Darwin's in appreciation by the youngsters, and they, like the birds, rarely err in their tastes for the choicest fruits. The crop of Darwin's Berberry is enormous, rivaling that of Currants; and it good to juvenile appetites, and agreeing with their stomachs, why not utilise the produce of the bushes for tarts, jam, and jelly?

Seeds are no obstacle to the preservers, as they can abstract seeds and skins quite easily by machinery, and in these days we want variety, the Berberry having a flavour peculiarly all its own. Boy taste falls last on the Holly-leaved Berberry. The crop is enormous and the fruits dazzling with "bloom." It is astonishing what a difference sugar makes in the appreciation of fruits, and not many more palatable preserves are made than that of the berries of the Holly-leaved Berberry.—G. ABBEY.

SHOWS.

BOOTLE.—JULY 20TH.

THIS great shipping harbour of Liverpool, with its thousands of acres of docks, and its quays laden with merchandise from all parts of the world, and a population largely composed of the working class element, has been too long behind the times in the matter of horticultural enlightenment, but, thanks to the Parks Committee of the Corporation of Bootle, the recently opened Derby Park was the scene of a brilliant and fashionable function, on the occasion of the first show in the park.

The Mayor, who was accompanied by the Mayoress, Town Clerk, and other members of the Council, at the opening said that it was the beginning of a new feature in their social life, and one which he thought would prove of great benefit to all, and hoped the show would be held annually. Councillor Morton spoke of the hearty co-operation received from everyone. Financially they had been very successful, and judging from the splendid show there was every prospect of its being the precursor of a most useful institution.

The groups of plants formed an extra fine feature, more particularly that staged by Mr. H. Ogden, West Derby, and for which the handsome challenge cup, presented by Lord Stanley, M.P., was deservedly bestowed. In other classes Mr. Ogden took the lead, Mr. C. A. Mather following with many successes. Roses were brilliant, and here the influence of the Formby air was most manifest, the flowers being of the richest hues, and the form perfect. Messrs. B. Kennedy and J. C. Hacking secured the prizes. Mr. Stanley's bouquets were of much merit. Mr. J. Mathews had plants in variety, suitable to all tastes. The small fruits and vegetables were of the highest order, Messrs. W. Mackarell and J. Norris taking almost all the prizes, although competition was strong in every class.

BECKENHAM.—JULY 26TH.

THE summer show of this Society was held in the Recreation Grounds, Croydon Road. The weather left nothing to be desired. The quality of the exhibits compare favourably with former years. The show includes many outside attractions, which appear to be duly appreciated.

There were only two groups arranged for effect, 10 feet by 5 feet, but both were of excellent quality, and tastefully arranged. Mr. F. G. Cogger, gardener to W. Potter, Esq., was placed first with a group composed of Humex, Crotons, Cannas, Caladiums, Ferns, and Panicum; Francoas, Odontoglossums, Masdevallias, and Adas provided the flowering part. Mr. G. E. Day, gardener to H. F. Simmonds, Esq., was second with a group in which the Orchids played the most prominent part; they were very attractive. There were six entries for the group 8 feet by 4. Mr. E. Hawkins, gardener to C. A. Smith, Esq., was placed to the front with a nice group, somewhat closely arranged. Mr. W. Biswell was a good second, and Mr. J. Draper, gardener to C. E. Firmin, Esq., third; this group included some excellent Lilliums.

Mr. F. G. Cogger was first for six table plants with good Crotons, Aralias, and Cocos Weddelliana. Mr. R. Robertson, gardener to W. Cobbett, Esq., followed with Crotons and Dracenas. Coming to the smaller class for three plants, Mr. E. Hawkins took first prize, closely followed by Mr. D. White, gardener to J. C. Stenning, Esq.; and Mr. F. Smith third. Mr. F. G. Cogger was awarded first prize for three flowering plants, staging a fine *Kalosanthes coccinea*, *Bougainvillea glabra*, and a *Statice*. The same exhibitor was again to the fore with three foliage plants with a good pair of well-coloured Crotons and a Caladium. Mr. R. Robertson, gardener to W. Cobbett, Esq., was second. For six miscellaneous plants Mr. R. Robertson was first with a moderate display. The single specimen plants in flower made a better display. Mr. W. Turle, gardener to A. H. Baker, Esq., South Eden Park, took first honours with a well-flowered plant of *Anthurium Scherzerianum*. Mr. W. G. Conn, gardener to H. W. Dillon, Esq., Sydenham, followed with a fine *Hydrangea*. Mr. R. Robertson was third with a fine *Fuchsia*. Mr. W. G. Conn was first for a specimen foliage plant with a well-coloured plant of *Pandanus Veitohi*. Mr. W. Turle was second with a fair plant of *Latania borbonica*; and Mr. H. Cooper, gardener to Miss Harrison, third.

For two Ferns, distinct, Mr. F. G. Cogger was still leading with good plants of *Adiantum Farleyense* and *cuneatum*; Mr. H. Cooper was second with good plants of *Davallia Mooreana* and a *Gymnogramma*. For three flowering Begonias Mr. W. Turle was first with moderate plants only. Mr. F. G. Cogger was the only exhibitor for three Coleuses, and was

deservedly awarded first prize with splendid plants. For a specimen *Fuchsia* Mr. R. Robertson was first with a plant in good condition; Mr. J. Galley followed, and Mr. M. Whitty brought up the rear. Mr. G. Galley, gardener to J. Horton, Esq., was an easy first for six *Gloxinias* of good size and in excellent condition. The competition for three Zonal *Pelargoniums* was keen, but Mr. F. G. Cogger came out again in the first position with capital plants, Mr. J. Galley following with a creditable exhibit, and Mr. R. Robertson third. Mr. F. G. Cogger was awarded first prize for three Ivy-leaved *Pelargoniums*, staging good plants of *Souvenir de Chas. Turner* and *Ryecroft Surprise*. *Petunias* were an excellent feature, Mr. J. Galley winning first prize with excellent plants, closely followed by Mr. R. Robertson, and Mr. M. Whitty third. For three *Lycopodiums* Mr. F. G. Cogger was first with well grown specimens, Mr. H. Cooper was second, and Mr. W. Turle third. The *Achimenes* made a bright display, Mr. F. G. Cogger winning handsomely with well flowered plants, and Mr. W. Turle second.

There were only two competitors in the class for forty-eight *Roses*, distinct. Messrs. D. Prior & Son, Colchester, were awarded first place with a good exhibit considering the late period. The best varieties were *Duke of Albany*, *Her Majesty*, *Comte de Raimbault*, *Madame Eugène Verdier*, *Medea*, *Maréchal Niel*, *Alfred Colomb*, *Helen Keller*, *Black Prince*, *Maman Cochet*, *Mrs. J. Laing*, *Horace Vernet*, and *Eclair*. Mr. A. G. Green, Gt. Horkesley, Colchester, was second with a weaker display; he staged good blooms of *Mrs. John Laing*, *John Stuart Mill*, *François Micholon*, and *Ulrich Brunner*. For twelve *Roses*, distinct, Mr. H. M. Rogers, Beekenhamp, was placed first with good flowers of *Francisca Kruger*, *Anna Ollivier*, and *La France*. Mr. Manser, gardener to T. B. Wooley, Esq., was second, and Mr. H. C. Anderson, gardener to S. Smiles, Esq., third.

For six *Cactus Dahlias* Mr. F. G. Cogger, gardener to W. Potter, Esq., was placed first with a box of the true type, which included good blooms of *Starfish*, *Harry Stradwick*, *Fusilier*, and *Cinderella*. Mr. W. Davis was second; and Mr. H. Cooper, gardener to Dr. Barton, third. The *Carnations* were very good. For twelve blooms Dr. A. H. Beadles, Sydenham Park, was first with good examples of *Voltaire*, *Nox*, *Begatta*, and *His Excellency*. Mr. H. M. Collier took the second position with good blooms of *Eldorado*, *Dr. Shackleton*, *The Hunter*, and *Cardinal Wolsey*; and Mr. F. Lane, gardener to C. T. Garner, Esq., third. Mr. F. G. Cogger was first for six bunches of *Sweet Peas* with a beautiful selection; Mr. H. C. Anderson came next with well displayed bunches, and Dr. E. W. Roper third.

The fruit classes were not well filled, though the quality was good. For two bunches black *Grapes* Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, was first with a good pair of Black *Hamburg*. Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley Hall, was second with larger bunches, which were lacking in colour, and Mr. W. Tyler, gardener to — *Lelena*, Esq., Longfield, third. For two bunches of white *Grapes* Mr. E. Dove was first with a pair of *Foster's Seedling*. For a collection of fruit, four varieties, Mr. E. Dove was the only competitor, and was awarded first.

Mr. John R. Box, Croydon, arranged a fine group of plants, composed chiefly of double and single *Begonias*, *Caladiums*, and *Palms*; also a collection of hardy flowers. Messrs. J. Laing & Sons, Forest Hill, staged a grand display of *Roses*, the boxes of *Mrs. J. Laing* and the garden *Roses* forming a fine feature; the whole was backed with *Palms* and *Bamboos*; also a large collection of hardy flowers, and a group of *Ivies*, ornamental trees, and shrubs. Messrs. J. Carter & Co., High Holborn, staged a splendid exhibit of single *Petunias*; the plants were dwarf, sturdy, and covered with blooms, showing the greatest possible variation in colouring. Messrs. J. Peed & Sons occupied one end of a large tent with a splendid display of *Caladiums*, arranged with *Palms* and *Ferns*; also boxes of cut *Roses*, double and single *Begonias*, and *Gloxinias* in great variety. Messrs. H. Cannell & Sons, Swanley, added a quaint feature to the exhibition with a large collection of *Cacti*, which included many choice species; also an exhibit of dwarf *Antirrhinums*, which were varied and bright in colour.

KENLEY.—JULY 26TH.

A VERY pretty show was furnished in this charming Surrey district on the above date. The large groups of a decorative kind were of the usual semicircular order; the best, and one that was light and graceful, all the flowers in it being of chaste colours, was arranged by Mr. Carey, gardener to H. J. Price, Esq. Mr. J. Bannerman, gardener to J. Lawrence, Esq., C.C., came second with a nice arrangement; and Mr. Woodham, gardener to G. Maw, Esq., third. With small groups Mr. Everard, gardener to H. E. Billing, Esq., was first. An odd class for tables of plants, fruits, and vegetables brought three competitors, Mr. Johnson, gardener to W. C. Straker, Esq., being first, having capital fruit. Mr. Carey had the best four *Begonias*, and Mr. Woodham the best *Gloxinias*. He also was first for Zonal *Pelargoniums* and greenhouse flowering plants. Mr. Johnson was a good first with table plants, and with foliage plants, flowering plants, *Ferns*, and *Fuchsias*; he also had good stove and greenhouse flowers in bunches.

Garden flowers in bunches brought a large competition, Messrs. Carey, Hill, and Bannerman taking the prizes. Mr. Hill had the best *Dahlias*, and Mr. Vale, gardener to J. H. Brand, Esq., was a good first in both classes for *Carnations*, Mr. Carey staging the best *Zinnias*, and Mr. Bannerman the best *Roses*. Mrs. Lawrence took first prize for a dinner table decoration, her flowers being rose, self, and rose-edged *Carnations*. Mr. H. Woodgate, gardener to J. Wark, Esq., President, had the best collection of hardy fruit, and was first with nine dishes of vegetables, Mr. Johnson being a close second. In another class Mr. Hill was first with six dishes, as also was he with a similar number for

Messrs. Sutton & Sons' prizes. Mr. Woodgate had the best collection of eight dishes of *Potatoes*. Sutton's *Windsor Castle Potato* won the prize for the best dish in the show, and Sutton's *Exhibition Pea* and *Perfection Tomato* were the best of their kinds. Good groups of plants were sent by Messrs. J. Laing & Sons, Mr. Box, Mr. Sedgely, and Mr. Edmunds.

SMETHWICK.—JULY 26TH.

THIS locally popular show was held in the eligible grounds of the President, J. A. Thompson, Esq., and though showers fell at intervals during the afternoon there was a good attendance of visitors. The gentlemen's gardeners' and amateurs' classes were represented much as on previous occasions, but unfortunately there was a material decrease in the cottagers' classes, much to the disappointment, especially the enthusiastic and hard-working Hon. Secretary, the Rev. G. Astbury, M.A., and his energetic assistant, Mr. W. J. Campbell.

The exhibitors in the first class were of well known local reputation, and the first prizewinner for a group of plants arranged for effect was Mr. Oliver Brasier, gardener to Lady Martineau, Edgbaston, with an elegant and artistic arrangement, one of its chief features being the profusion of *Oncidium flexuosum*. *Ixoras*, *Crotons* (finely coloured); white *Lilies*, *Gloxinias*, *Bouvardias*, and *Palms* were also skilfully utilised. The second prize went to Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston, for a highly creditable production; the third to Mr. G. Hancox; and the fourth to Mr. Batchelor, gardener to Mrs. Arnfield, Edgbaston. Specimen plants were well exhibited, Mr. Cryer beating Mr. Brasier with fine examples of *Kalosanthes coccinea*, *Vinca oculata*, *Statice profusa*, two very large well coloured *Crotons*, four large *Palms*, and others in the class for twelve plants, distinct. For six exotic *Ferns*, Mr. O. Brasier led the way, followed by Mr. Batchelor and Mr. A. Cryer respectively.

Begonias were creditably shown by Mr. Cryer, Mr. Brasier, and Mr. A. W. Hulse, as in order named, while the last named came in first for *Gloxinias*, and Mr. Cryer in the second place. Zonal "*Geraniums*" were finely shown by Messrs. Cryer and Hulse, and *Fuchsias* by Messrs. Brasier, Hancox, and Cryer. *Sweet Peas* were nicely exhibited, considering the district, by Mr. Hulse, Mr. E. Astbury, and Mr. W. F. Vernon in order given.

There was only one collection of fruit, the first prize being awarded to Mr. L. Tangye, the same exhibitor taking first prize for two bunches of Black *Hamburg Grapes*; and Messrs. Brasier and Cryer the second and third prizes for *Foster's Seedling* and Black *Hamburgs*. Mrs. Arthur Astbury was awarded a certificate of merit for three fine dishes of *Tomatoes*, consisting of *Frogmore Selected*, *Hagly Perfection*, and *Golden Jubilee*.

Special prizes were offered by Messrs. Sutton & Sons, Reading, for six distinct kinds of vegetables, the first prizes falling to Mr. Cryer for a very neat assortment; the same exhibitor also carrying off the first prize offered by Messrs. Webb & Sons, Wordsley, for six distinct kinds of vegetables; also the first prize offered by Messrs. Thomson & Co., Birmingham, the competition not being strong. In the latter class Mr. G. Hancox was accorded the second prize.

Certificates of merit were awarded to Messrs. Webb & Sons, Wordsley, for a collection of *Sweet Peas*, hardy garden flowers, and annuals; and to Messrs. Yates & Sons, Birmingham, for a representative collection of herbaceous cut flowers.

PRESCOT.—JULY 27TH.

TO withhold a horticultural show from the inhabitants of Prescott would be almost a scandal. It is only right and proper that those possessing the beautiful gardens in the neighbourhood should support the capital working committee so ably presided over by Mr. Norris Mercer, and the secretarial work of the courteous Mr. Case. Although Prescott does not shine particularly in large gardens, yet the working classes can hold their own in outdoor culture, and few places can boast of such extra special vegetables, and in other departments the competition was extremely fine. The show was held in the beautiful Knowsley Park, kindly lent by the Right Hon. the Earl of Derby. To fully enter into all the classes would be an impossibility with the space at command, and so I must be content with a few of the items.

First and foremost the great exhibit was that staged by Messrs. Alex. Dickson & Sons, Newtownards, Co. Down, Ireland, the seventeen dozen refined *Roses* and the large collection of their seedling *Sweet Peas* calling forth unstinted admiration, the gold medal and cultural certificate being none too much for the exhibit. A non-competitive exhibit also was that staged by Mr. Doe, gardener to the Earl of Derby. The fruit was abundant and of the highest quality, almost everything in season being represented. A noticeable feature was the *Peach Comte de Montiflore*, a medium-sized fruit of the colour of the *Apricot*, excepting the rich dull crimson cheek. A new *Nectarine*, *Précoce du Cronsele*, was in fine form, and Mr. Doe assured me that it had been a full fortnight earlier throughout than *Cardinal* or *Early Rivers*. Another feature were the choice herbaceous plants and *Tea Roses* from the well-known firm of Dicksons, Ltd., Chester. Mr. C. A. Young staged *Carnations* in his finest form; the *Sweet Peas* put up by Mr. H. Middlehurst received a large share of appreciation. To all the above certificates were granted.

Amongst private growers Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, was accorded premier position for six stove and greenhouse plants, four *Ferns*, four *Coleus*, eighteen cut *Roses*, besides numerous seconds in the plant classes, all with well cultivated plants. Mr. Jno. George, gardener to F. W. Mayor, Esq., Whitfield House, Roby; and Mr. McFall, gardener to E. C. Leventon, Esq., Oakfield, Roby, were next in order with capital plants.

Mr. McFall's group for effect was rich in flowering plants, but more "greenery" might have been introduced with telling effect. Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby, was a good second, and Mr. R. Pinnington third. Mr. McFall showed splendid greenhouse and stove flowering plants in other classes. The Gloxinias from Mr. Lyon were types of the best culture, whilst Mr. George's Fuchsias were most profusely flowered. Mr. T. Greene, gardener to T. Gee, Esq., Greenhill, Allerton, was successful with Cockscombs, one Begonia, twelve Roses, and a collection of herbaceous flowers well set up; the prize for six Begonias going to Mr. Humphreys, gardener to E. Shorrocks Eccles, Esq., Huyton. British Ferns were handsomely grown by Mr. Field, gardener to J. H. Wilson, Esq., Aigburth, and it is a feature well worth imitating in every schedule, for they were quite as handsome as any of the exotics.

The fruit classes were capitally contested, the honours falling to Mr. T. Eaton, gardener to J. Parrington, Esq., Roby Mount, Roby, whose fruit in the collection and in Peaches and Nectarines were of fine form and beautiful colour, reflecting much credit on the grower. The honours for white and black Grapes fell to Messrs. J. Fairclough, gardener to J. Atherton, Esq., Huyton (two classes); W. Oldham, gardener to G. Beecham, Esq., Ewanville, Huyton; and R. Forbes, gardener to Mrs. Baxter, The Tower, Rainhill. Small fruits were splendid, the winners being Messrs. Pinnington (two classes), McFall (two), J. Brown (two), Eaton, G. Parr, and G. Fairclough. Vegetables were all specially choice, and not the least interesting feature of the show.—R. P. R.

NEWPORT.—JULY 28TH.

ALTHOUGH comparatively young this Society holds its own against other West of England societies, and is steadily improving its position both as regards the quality, extent, and popularity of the exhibitions held. Mr. J. Ellis is the Honorary Secretary, and he receives good assistance from a representative Committee. The Show was held under most favourable climatic conditions, and was well attended.

The competition with trained and other specimen plants was satisfactory, the greater portion being locally grown. For six flowering plants Mr. J. Cypher, Cheltenham, was first, staging large, grandly flowered specimens of *Statice profusa*, *Bougainvillea Sanderiana*, *Ixora Williamsi*, *Erica Irbyana*, *Erica obovata*, and *Stephanotis floribunda*. Mr. McLew, gardener to A. T. Robinson, Esq., was second, among his plants being a fairly good specimen of the old-fashioned exhibition plant *Kalosanthes coccinea*. Messrs. W. Jones & Son were third. The best four flowering plants were shown by Mr. W. Carpenter, gardener to W. J. Buckley, Esq., these consisting of *Anthurium Andreanum*, *Allamanda Hendersoni*, *Ixora Williamsi*, and *Bougainvillea Sanderiana*. Mr. D. Powell, gardener to Col. Wallace, was second. The competition with fine-foliaged plants was closer and keener than is the case at many other shows. Mr. Cypher was first, *Crotons Flambeau* and *Kentia Fosteriana* and *Belmoreana* being his best plants. Mr. G. Sharratt, gardener to C. H. Bailey, Esq., M.P., was second. For four varieties Mr. J. Duff, gardener to Mrs. Williams, was first, showing good specimens of *Cycas intermedia*, *Kentia Belmoreana*, *Lantana borbonica*, and *Anthurium crystallinum*. Mr. J. R. Taylor, gardener to J. Pickford, Esq., was a good second, and Mr. C. Parker, gardener to T. J. Bynon, Esq., third.

Table plants were numerous and well selected. First, Mr. J. Grisdale, gardener to C. D. Phillips, Esq.; second, Mr. J. E. Davis, gardener to Lord Aberdare; and third, Mr. H. A. Joy, gardener to R. A. Bowring, Esq. Mr. J. Pegler, gardener to H. J. Davies, Esq., was first for Begonias; second, Mr. J. R. Taylor; while for Gloxinias, Mr. J. B. Greening, gardener to P. A. Williams, Esq., was first; and Mr. W. Lewis, gardener to Dr. Garrod Thomas, second. For Coleuses, Mr. R. Long, gardener to W. T. Dawson, Esq., was first; second, Mr. G. Sharratt. The most successful exhibitors of Orchids were Dr. C. B. Gratie and Mr. G. Sharratt; and the principal prizewinners with Ferns were Messrs. T. Sharratt, John Duff, and W. Lewis, the competition being most satisfactory in every instance.

Groups for effect were quite a feature in the display. The best circular group was arranged by Mr. W. Carpenter, who made good use of admirably grown materials; second, Mr. McLew; third, Mr. G. Sharratt. The semicircular groups were equally well arranged, but Mr. H. A. Joy was well first; Mr. D. Powell second, and Mr. J. R. Taylor third. The first prize for a group of Tuberous Begonias went to Mr. H. J. Pillinger.

The hot dry weather experienced for several weeks in succession seriously militated against the cut flower section, but Mr. Ralph Crossling, Penarth, had grand stands of Roses, taking first for Hybrid Perpetuals and Teas; Mr. W. Treseder, Cardiff, following in each instance. With both Carnations and Picotees Mr. W. Treseder easily gained first honours, staging large perfect blooms in each instance. Mr. J. B. Greening also showed good blooms, and was awarded second prize. For a mixed stand Mr. C. Darling was first. Mr. W. Treseder was first for an excellent display of herbaceous flowers in twelve kinds; second, Messrs. Jones & Son, Maindee; and there were numerous competitors with Sweet Peas, Zonal Pelargoniums, and other flowers.

Fruit was shown in fairly large quantities, and much of it was praiseworthy. In the open to all section the first prize for a collection was awarded to Mr. H. A. Joy, and he was also first for white Grapes, showing good Muscat of Alexandria; second, Mr. R. Giddings, with beautifully ripened Buckland Sweetwater. Mr. J. Fraser, gardener to F. L. Dane, Esq., was first in the class for black Grapes, showing Black Hamburg good in every respect; second, Mr. T. Greene, gardener to E. Lewis, Esq., for very creditable examples of Madresfield Court.

Melons were shown in pairs, and not cut by the Judges. Mr. H. Mitchell, gardener to H. B. Cory, Esq., was first; and Mr. J. B. Greening second. Peaches were numerous and good. The first prize went to Mr. T. Green for remarkably well grown Royal George; second, Mr. W. E. Noad, gardener to W. Anning, Esq., for Bellegarde, also very fine. In the local classes the prizes for collections went to Messrs. C. Darling (gardener to Col. Lyne), T. Green, and W. E. Noad in the order given. In the various other fruit classes Messrs. H. A. Joy, J. Fraser, W. E. Noad, R. Giddings, H. Mitchell, R. Long, J. Hughes, and J. Duff were the most successful competitors.

Vegetables were better in quality, and shown in larger quantities than anticipated. The best nine varieties were shown by Mr. J. C. Hughes, second Mr. T. Richards, third Mr. E. Steer. Tomatoes were good. First Mr. T. Richards, second Mr. W. E. Noad, third Mr. J. Duff. Cucumbers were also well selected. Mr. McLew was first and Mr. J. C. Hughes second. Classes were provided for all kinds of vegetables in season, and these were well filled.

Non-competitive displays added considerably to the attractiveness of the show. A gold medal was awarded to Mr. W. Treseder, Cardiff, for a group of choice plants and cut flowers very tastefully and lightly arranged in an up-to-date style. The Carnations, Picotees, Chrysanthemums, and Dahlias were remarkably good, and shown off to the best advantage. A gold medal was also awarded to Mr. John Basham, Bassaleg, Newport, who had a grand bank of plants and cut flowers, comprising bush Apples and cordon Gooseberries admirably fruited in pots, and a variety of stove and greenhouse plants. Messrs. Heath & Son made a good display with herbaceous flowers, Dahlias, Sweet Peas, and Orchids, and gained a silver medal. Messrs. Garaway & Co., Bristol, showed a group of well-grown stove and greenhouse plants. Mr. Eckford exhibited Sweet Peas of great merit, as also did Messrs. Jones & Son, Newport. A tent was wholly devoted to ladies' exhibits, table decorations proving most attractive.

THE YOUNG GARDENERS' DOMAIN.

THE GLOXINIA.

(Concluded from page 88.)

THE house should be kept close for a few days, and air admitted gradually after growth again commences. When thoroughly rooted repot into 32's and 24's in the same soil as recommended previously, with some sheep manure, dried and broken up very fine, incorporated with the soil. When growth is very active liquid manure is beneficial. Gloxinias are partial to soft water, this making the leaves beautifully green, which is a sure sign of health and vigour.

It is necessary to sow seeds thinly. When the young seedlings make their appearance they must be carefully shaded, as the sun quickly cripples them. When the youngsters are large enough to handle, prick them out into pans, and before they become crowded transfer to small pots, and later into 48's, the size in which the plants are to flower. Crock the pots well. Treated thus they make capital stock, and will have from six to a dozen flowers on them.

The old tubers are scarcely worth growing after the second season, as the flowers deteriorate to a great extent after this stage. If a particularly good variety makes its appearance and it is desirable to increase it, it may be done by means of the leaves. These quickly root and make plantlets if taken off and the stem inserted in soil. During the flowering period the plants should be removed to a cooler house, as by this means they will last in good condition for a considerably longer time.—W. J. M.

MUSHROOM CULTURE.

MOST gardeners have to produce quantities of this edible fungi, and various are the ways they are served up at table by the cook. July is a suitable month to commence collecting the stable manure for making the first bed to be put in the Mushroom house. Some gardeners exclude all straw from the manure and obtain excellent results, but where the horses are periodically given medicine balls, or fed freely with Carrots, the practice of using the droppings alone is risky, and not to be commended, and under such circumstances I have known it extremely difficult to get Mushroom beds to bear good crops.

If large quantities are required the process of collecting the material is very slow. I have found the following way entirely satisfactory. In most stables the men generally put the whole of the manure which is daily collected into the "mitten" or pit attached to the stables, and it is usually of a very strawy nature. When a quantity is required for a bed the contents of the pit should be turned over and have all the longest of the straw shaken out, retaining all that which is short, and of course full of droppings.

Take this to the garden yard or to an open shed if one is available. If the manure is put into the open means must be found to ward off rain. The manure should be put in a heap, and when fermentation commences it must be turned every alternate day, as by this process the rank gases are dispelled, and in a fortnight the whole mass will be sweetened and purified. If the manure is dry it should be sprinkled with water, but aim at the happy medium, so that when the manure is put in the bed it may be beaten down quite solid.

After the bed, which should not be less than 15 inches in depth, is made up, place a thermometer 3 inches deep in the bed, which will probably heat rapidly to 110°, or higher if the manure was too moist when put in. When the heat of the bed has declined to 75° at the depth indicated above the bed may be safely spawned.—FOREMAN X.

(To be concluded.)



HARDY FRUIT GARDEN.

Strawberries—Established Beds.—It is advisable to give frequent attention to Strawberries now that the beds have done bearing fruit for the season. Runners grow apace, and, if allowed, root strongly into the soil, becoming a crowded mass, which is very detrimental if weeds also are intermixed. The most troublesome weeds are the strong, deep-rooting varieties, but all are more or less a nuisance. Beds from which runners have to be withdrawn for forming new plantations should be kept freely thinned out, so that each plantlet in the process of rooting may have the advantage of growth in light and air. It frequently occurs that the best young plants may be secured from the outside rows, and as many of these as possible may be utilised. In cases where plants are wanted and runners are not yet rooted facilities for them doing so may be afforded by forking up the soil, adding a little fresh, rich material, and securing the runner upon it with a stone. In dry weather apply water. The wire beyond the plantlet should be cut off.

Young Beds.—Strawberries planted this spring and not allowed to fruit the present season are now well established strong plants. Having had their first crop of runners removed they will probably be developing more, which also ought to be cut off, and all weeds, either of an annual or perennial character, pulled up or hoed off. In good ground these plants succeed well enough without mulching or feeding the first season, but when they commence to fruit assistance is beneficial.

Treatment of Rooted Runners.—When the plantlets, under any system of propagation, have sent their first roots into the soil, the runners may be detached from the parent plants. Those in pots must be kept freely watered, and this can be more readily done if the pots are stood closely together on a moist base. If rooted in turves place these also closely together, but plant finally as soon as possible. Rooted in the ground they are not much trouble, but space must be allowed round them.

Planting Strawberries.—Strawberries must be planted on good soil, well manured, and deeply cultivated. Recently prepared ground should be made firm. This may be effected by treading the soil well when it is not wet. Early planting is desirable for securing a good crop the first season. Plants rooted in pots and turves may be employed, and if thoroughly moist, they soon take hold of the soil, especially if the planting is carried out in moist weather. When inserting the plants, firm the soil about the roots, placing the crowns just below the surface. In dry weather, watering ought to continue until the plants are well established. In the course of the autumn, growth is vigorous, and bold crowns are developed.

Protecting Wall Fruit.—Apricots, Peaches, Nectarines, Plums, and Cherries on walls when ripe, or approaching that stage, ought to have some protection from birds and insects. Good strong hexagon netting is the best protector against birds. The netting should be carefully fixed, so that there are no spaces through which birds can reach the fruit. Peaches and Nectarines are damaged if the fruit falls, therefore, to avert this, hang nets so that the ripe fruits may fall into them, but, if possible, gather them before they do fall. Red and White Currants and Gooseberries will hang in a ripe condition for a considerable time on walls if carefully netted. If wasps and flies are troublesome, hang some jars about the trees containing sugar, honey water, or beer.

Summer Pruning.—The shortening of the long shoots on Apples and Pears growing as pyramids, bushes, and as wall trees ought now to be completed, in order that the trees may receive the full benefit of light and air. Secondary growths will not be likely to push from shoots pruned back now, but if any growths do start from the upper buds of shortened shoots, as they do on vigorous trees when summer pruned early, such may be cut back to the first good leaf. It is, therefore, best to allow secondary growths to extend until the leaf in question has attained its full size, when the shortening may be carried out.

The present time may be chosen to thin out crowded branches in standard trees, as the foliage being present it is a guide in the removal of branches. No harm is done to the trees by this summer pruning if judiciously effected. Young trees must be examined and growths regulated, so that equally balanced and symmetrical specimens may be built up, to the advantage of the trees and the need for less pruning in winter of a severe character.

Gooseberries.—The summer pruning of Gooseberries on walls and trellises consists in fully formed trees of reducing the side growths to three pairs of leaves. Branches which require yet to be fully extended should have the leading growths carefully laid in without shortening, but the side or foreright shoots below may be pruned back. In originating branches they must be a foot apart, as there is nothing whatever gained by crowding. Bush Gooseberries are better and easier managed if allowed freedom of growth, but subjected to some amount of regulation by thinning out the most crowded growths. This may be effected after the fruit is gathered, thus leaving little or none to be pruned away in winter.

Black Currants.—Plenty of strong summer growths, emanating from the lower parts of bushes, or springing as suckers from the base, are the growths to retain. It follows, therefore, that old, weak, or exhausted branches may be dispensed with. This can be done with great advantage now, and if carried out annually on similar lines, healthy and fruitful bushes are secured.

FRUIT FORCING.

Cherry House.—The trees now have the wood sufficiently ripened and the buds enough plumped to allow of their being fully exposed to the atmosphere. Remove the roof-lights, which is the best means of arresting premature growth, to which the Cherry when forced year after year successively is liable. The leaves from their hard texture are not very inviting to black aphid, but red spider will prey upon them unless prevented by forcible syringing or an insecticide. If black aphides appear at the points of the shoots syringe with tobacco water, rubbing the worst affected parts gently between the finger and thumb whilst wet with the insecticide. The border must not be allowed to become too dry, but have copious supplies of water, or, if the trees are weakly, liquid manure. Trees in pots may be plunged in ashes or a base impervious to worm in an open but sheltered situation outdoors, and must be regularly watered and syringed to maintain the foliage in a healthy state as long as possible.

Cucumbers.—Any house or frame at liberty may yet be planted with Cucumbers, the frame having a bed of fermenting materials, which will give a supply of fruit in September and continue to do so to nearly Christmas if due regard be had to lining the bed and to protecting from cold by mats over the lights at night. Let the growths of plants in frames or houses be thinned at least once a week, and in growing weather twice, removing exhausted growths to make room for young bearing shoots. Keep the growths well stopped to one joint beyond the fruit, or at the fruit if the plants are vigorous and showing no signs of exhaustion. Always allow weakly plants more extension, and crop them lightly. Maintain a temperature of 70° at night, 75° by day, 80° to 85°, with sun, closing early to increase to 90° or 95°, the bottom heat, if any, being kept steady at 80° to 85°. Maintain root action, and increase it by surface dressings of turfy loam and lumpy manure, and pay due attention to watering two or three times a week. Syringe in the afternoon of hot days, but avoid late syringing, for the foliage should be dry by sunset. The autumn fruiters ought to be planted on hillocks or ridges, moderately firm, maintaining a moist and genial atmosphere, and they will grow and show fruit in plenty shortly, being far better for a supply of late summer and autumn fruits than old plants, which produce knobbed, crooked, and otherwise inferior specimens at that season.

Peaches and Nectarines.—Early Forced Trees.—The fruit has been cleared from the trees started by or before the new year; the wood on which the fruit was borne, and not being extension, has been removed, also superfluous growths, so that those retained have abundance of air and light for perfecting the fruit buds and maturing the wood, which is encouraged by clean foliage and proper supplies of nutriment. The trees thus regulated in growth are more amenable to cleansing from dust and insects by means of the syringe, water at 125° to 130° being very efficacious against the assiduous red spider and soft scale, it being important that the trees be kept perfectly free from pests. It is also essential that the trees be duly supplied with water at the roots, or in the case of weakly trees, liquid manure.

Trees that do not set their fruits well may often be assisted by supplying phosphatic and potassic with magnesian elements at this season, two parts dissolved bones, dry and crumbling, and one part double sulphate of potash and magnesia mixed, using 4 oss. per square yard, and pointing in lightly. A light mulching, especially on light soils, will also tend to keep the roots near the surface, and prevent the premature ripening of the foliage.

Succession Houses.—In the late succession houses every attention must be given to the trees in syringing to keep the foliage free from red spider and in watering the borders. It will be an advantage to mulch the borders with short lumpy material, as stable manure freed from the straw, thrown into a heap, allowed to heat, then turned outside to inside, and when in heat again spread out to cool, placing in the border. This will save endless trouble from weed seeds, and practically destroy all contained disease germs, as well as prevent danger from an excessive evolving of ammonia. The value of this rather fresh, but not rank, manure as a mulch is the ammonia given out being inimical to insects and invigorating to the trees, the waterings making its soluble constituents available for taking up by the roots, and by being lumpy or open atmospheric air has freer access for assimilating the nutritive matter in the soil than when it is sealed or greatly hindered by a close soapy mass. The shoots must be regularly tied in, allowing space in the ligatures for swelling.

To assist the colouring and ripening of the fruits they should be exposed as much as possible to the influences of sun and air by removing or shortening some of the foliage where too thickly placed. When the fruit is on the under side of the trellis the shoots may be untied and regulated, so as to bring it with the apex to the light, supporting each fruit in position by a lath placed across the trellis. Discontinue the syringing when the fruit commences to ripen, and lessen the supplies of water, but on no account must water be withheld, to the prejudice of the health of the trees. A piece of soft netting (hexagon) placed below the trellis, and so arranged as to form pockets to save the fruit from a long run against each other, will prevent any fruits being bruised should they fall. Both

top and bottom ventilation will be necessary constantly, except in cold weather, after the fruit commences ripening.

Late Houses.—Continue syringing the trees as often as necessary to hold red spider in check, but avoid keeping the foliage constantly moist. Inside borders must be well watered and mulched. Tie in the shoots regularly and evenly, keeping them rather thin. Stop any gross growths, or preferably, remove them, thereby causing division and equalisation of the sap and vigour throughout the tree. When the fruit commences swelling after stoning, and it being desired to accelerate the ripening of the fruit, close the house somewhat early in the afternoon, let the temperature rise to 80°, or 85° or 90°, ventilating a little before nightfall. Increase the ventilation early, and keep through the day from 70° to 85° whenever practicable. The wood is so unripe in some cases that every possible advantage should be taken of the solar heat, alike to perfect the crop and mature the wood and buds for the ensuing season, especially in unheated houses.

THE BEE-KEEPER.

REMOVING SUPERS.

THE honey harvest is now nearly over. It is, therefore, necessary to pay attention to the supers, and endeavour to get them as well finished as possible. It is a great mistake to be constantly removing the sealed-over sections or shallow frames late in the season, and replacing them with empty ones, expecting them to be filled and sealed in the same manner as they would have been when bee forage was plentiful. The majority of the colonies will be of a great strength at this season, but however strong they may be, they will not store a surplus after the end of July, unless the Heather is conveniently at hand.

The bee-keeper's aim should therefore be to endeavour to get his supers, in whatever form they may be, as well finished as possible. The desired end can be obtained by removing all sections and shallow frames that are properly sealed over. Those that remain should be placed directly over the brood nest in the middle of the hive; there will then be a much better prospect of them being finished off than if placed at one end of the crate. A piece of thin wood may be laid over the tops of the frames so as to keep the brood nests warm, until the crate can be removed, and the quilt and covering placed in their proper positions. All should be covered up warm. A few extra coverings after this date will be an advantage, as partly filled supers will not be finished satisfactorily unless they are kept warm, and what is equally important dark.

How often one has seen supers placed carelessly on the hives without being properly covered with sufficient wraps to keep up the temperature and exclude the light. With what result? A small harvest of honey and badly finished supers. This is disappointing to those who are responsible for their management, and in practice makes all the difference between success and failure in bee-keeping.

BELL-GLASSES.

Although the movable frame hive has made much headway of late years, there are very many bee-keepers who still use the time-honoured bell-glass for obtaining comb honey; and what is more beautiful and interesting than a well-finished glass super of honey? It is interesting during the progress of comb-building and sealing over of the stores to watch the busy workers, and as this can be done without any danger of being stung, it is not surprising that they still find favour with many bee-keepers. As a marketable article they are now very much out of date, except for special purposes.

It is sometimes somewhat difficult to clear them of bees. The plan we usually adopt when removing glass supers from the hives is to draw a piece of thin wire under the bottom of the glass. This will make a clean cut through the combs where they are united between those in the glass and the hive. The glass is then wedged up with a few thin pieces of wood, but not of sufficient height to allow the bees to escape. The bees will then clean up the leakage, so that in about an hour afterwards the glass may be lifted bodily from the hive. It is better to do this when the weather is warm and bright, as the bees will leave their combs much more readily than when the temperature is low.

Take the bell-glass into a shaded corner some distance from the hive, and with a wing or feather brush off the bees from the bottom of the combs. Wrap some dark material round the outside of the glass so that the light strikes on the bottom of the comb; continue to remove the bees as they come to the light, and in a short time the majority of them will have left the combs. The bees will at once return to their hive, and the super may be removed to a cool place where the bees have not access to it.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Judging Wild Flowers (Wild).—There is very often something to be found in schedules explanatory of certain classes as briefly set forth, and that is why we have many times requested that a schedule should be sent, and not a cutting from it, when inquiries are made on any question in dispute. As a rule, but there are exceptions, when there are separate classes for Grasses these are not eligible for association with wild flowers, but otherwise are generally admissible. The Secretary ought to be able to tell you what the intentions of the Committees were, and whether the Judges acted in accordance with them in awarding the prizes.

Strawberries for Shady Ground (S. G. C. C.).—We have had good results from Princess Alice Maud, Grove End Scarlet, Filbert Pine, and Elton Pine. The Alpines do fairly well. St. Joseph partakes of this character, and is one of the best of bearers, also palatable with sugar and cream. It should be grown supplementary to, not in lieu of, the larger and richer varieties mentioned, though the large and late Eleanor is not rich and Grove End Scarlet is small. In a rather shady situation a grower has had fairly good crops this year from King of the Earlies, Viscountesse Hericart de Thury, and Latest of All.

Peat Moss Manure for Tomatoes (Idem).—A grower outdoors has his Tomatoes mulched with peat moss manure from town stables, and finer, healthier plants in full fruit were never seen. Another grower not 20 yards distant has the scabbiest lot of Tomatoes we have ever seen. The ground in his case was manured and surface mulched with straw stable manure. Soil in both instances rather strong reddish loam (ferruginous) over calcareous gravel incumbent on chalk with flints. The grower first alluded to uses fowl manure from houses in which air-laked lime is regularly scattered, so that the manure contains about three parts lime. The other does not use any lime. If you use peat moss manure in moderation, and dress with a mixture of three parts lime and one part kainit, using a good handful, or 4 ozs. per square yard, you ought to be able to grow good crops of Tomatoes, though much depends on the soil with which you have to deal, and on this you say nothing. Your other brevities are answered on another page.

Mealy Bug on Vines (R. A. C.).—You will find the pest difficult to eradicate. The practice we have followed very successfully was to syringe the Vines thoroughly as soon as the Grapes were cut, with a mixture of softsoap, soda, petroleum, and water. The water was at a temperature of 130°, 2 ozs. of softsoap dissolved in a 3-gallon watering-canful, also half an ounce of washing soda, then a wineglassful of petroleum placed in, and by filling the syringe quickly and forcing it back into the vessel a few times, the oil was mingled with the water. This done the syringe was filled and the contents forced on the Vines, the next syringe being forced into the watering-can, then the next over the Vines, and the following ore into the vessel, and so on. The object is to keep the oil mixed with the solution, and to wet every part of the Vines and house by syringing both ways. In three or four days repeat the dressing, and again at a similar interval. When the leaves are ready to fall take them off the Vines and burn them, and when the Vines are pruned subject the prunings to a similar ordeal. Then wash the woodwork with soap and water, using a brush; the glass with clear water. Limewash the walls. Remove the loose bark from the rods, not, however, peeling them into the live bark, and wash them with either a solution of soluble petroleum, according to the instructions supplied with the article by nurserymen and horticultural sundriesmen; or with a preparation of 2 ozs. caustic soda, and 2 ozs. of commercial potash, dissolved in 1½ gallon of boiling water, applying with a brush at a temperature of 130°. If you reach every mealy bug or its eggs with either of these applications you will do well, and end the trouble, but the pest lurks in all kinds of places, such as in dry soil near hot-water pipes, in fissures anywhere, and the under sides of dry shelves. The surface soil of the border must be cleared away, and a top-dressing given of fresh turfy loam. If any bug come next year, vaporise with nicotine at intervals of about ten days or a fortnight a few times, and that will clear out the pest.

Pea Haulm Infested with Insects (W. S.).—The insect is not only similar to the common thrips, but really is one of the family—namely, corn thrips, modified through development in Peas, and called Thrips cerealium var. Pisal. It is yellow in colour in the larval state, with a black tip at the tail; the pupæ is also yellow, but paler, and the perfect insect is blackish. The pest is very prevalent this season, attacks commencing at the points of the haulm, under the folded cover of which marauders are practically free from anything intended for their destruction. This will account for the syringing of the Peas with paraffin and softsoap having no effect. The smell of tobacco, however, makes them very uncomfortable, and is, after all, the best remedy, though one of the oldest. Nicotine essence, 1 part in 100 parts water, makes an end of all that it reaches, as also does tobacco juice, that of the manufacturers being diluted with twelve times its bulk of water, syringing on in either case, and repeating once or twice at intervals of four days. The insect is encouraged by drought, lack of nourishment or water or both at the roots, and a dry condition of the atmosphere. Watering, mulching, and syringing tell against the pests, and are good for the Peas.

Gooseberries Affected with Mildew (W. H. Y.).—Yes, we can recommend a treatment for Gooseberry bushes, the leaves of which are affected with grey mildew (*Microspheera grossularis*)—namely, spray with a solution of potassium sulphide (liver of sulphur) at the rate of one-half ounce to 1 gallon of water. Begin as soon as the leaves commence unfolding, and repeat the application at intervals of fourteen if wet, to twenty-one in fair weather. The sulphide, or liver of sulphur, dissolves more readily in hot than in cold water, and the solution is preferably applied at 130° to 185°. Many plants will bear the temperature named when the growths are fully formed and become somewhat hardened. A dressing would have a good effect on Gooseberry mildew if applied now, as it would greatly hinder the production of "fruits" (called by botanists perithecia), which enclose the winter spores. In the autumn, as soon as the leaves are all down, we should give the bushes a good dusting all over with quicklime freshly burned, and slaked to a fine apparently dry powder. In addition to the lime falling on the ground we should apply half a pound of a mixture in equal parts by measure of air-slaked lime and fresh soot to the square yard, digging in without delay. The burying of the surface soil will do much to prevent attack another season by getting the perithecia well down. Your compliment is reciprocated.

Mushroom Bed Refuse for Asparagus (J. T. O. B.).—The idea is a good one, the old outdoor Mushroom beds being spread on the ground and then the manure mixed with the 2 feet depth of top soil by turning as in the case of a manure heap, incorporating the manure well into the soil from top to bottom. This plan we have carried out, and had excellent returns in the second year after planting stout one-year old plants, 15 inches apart in rows 18 inches asunder, leaving out every fourth row for facility of cleaning, manuring, and cutting. The seeds were sown 2 inches apart in drills a foot asunder, and the seedlings thinned to 6 inches distance, or as near thereto as the best plants stood in the row. Asparagus culture is treated of in most books on gardening, and the marketing aspect of the question has been frequently referred to in our columns. We feel sure of your success in the 2 feet of top soil. The under layer of clinch and gravel should be left severely alone, and the manure mixed with the soil, not buried at the bottom as is commonly done in trenching. We also planted in rows a yard apart and 18 inches asunder in them, but though we got large heads and a higher price per hundred, the produce did not realise the same good returns as from the closer planting before named. Though we grew every new sort the Giant was far away the most remunerative; that known as Market Favourite proving the best, though Early Giant Purple Argenteuil, Late Giant Purple Argenteuil, and Connoyer's Colossal gave excellent results. See Mr. Udall's remarks on the importance of selecting plants, and generally, on page 529, June 20th.

Tomatoes Diseased (Tomato Grower).—The plant is affected with "sleepy disease" fungus, *Fusarium solani* var. *lycopersici*, which you may readily see by cutting a similarly affected plant through just above the soil, and observing the brown colour of the woody tissues. The soil is of a very fibrous dark brown or black colour, and contains very little gritty matter, and practically no lime. We should mix with it 2½ per cent. by weight (weighing 100 lbs., stones, or cwt. of loam, and add 2½ lbs., stones, or cwt.) of basic slag phosphate, and 1 per cent. of kainit, leaving in the stack about three months, then chopping straight down and mixing evenly. That will be likely to have a good effect on the plants. The leaves are affected by the spot fungus, *Cladosporium fulvum* (*lycopersici*), and this also affects the fruit, giving rise to the well-known "scald," which is quite distinct from "scald" and "black stripe." There is no better preventive of this fungus than free ventilation, with gentle warmth in the hot-water pipes, and such supplies of mineral food in available form as will aid the plants against their parasitic foes. It is sometimes advisable to use fungicides in powder, such as antilbight, before the fruits approach ripening; if used afterwards, they must be cleansed. It is, however, of the first importance to remember that fungicides are preventable by active measures in advance of attack. If you treat the soil as before advised, and in addition apply artificial manures, such as a mixture of five parts fishmeal, three parts double sulphate of potash and magnesia, three parts mineral superphosphate (high grade), one part sulphate of soda, and half part sulphate of iron, all crushed fine, mixed, using 4 ozs. per square yard, blending well with a foot in depth of soil before potting or planting, firm growth will be incited under proper ventilation if the soil is firm, and the plants will be in the best of condition to resist fungoid attacks.

Spring and Winter Onions (Epsom Exhibitor).—You do not say whether the Onions were raised under glass and transplanted, or the plants grown from seed sown in the open ground and thinned in the bed for the purpose of development. We strongly suspect the former was the case, or they would not have been mistaken, if they were mistaken, for winter Onions. It is not unlikely that the Judges regarded them as having been raised under glass in January or February, and therefore differed materially from others in competition with them, as outdoor spring-sown and not transplanted. It cannot be said there is equality of opportunity under such circumstances; nor can it be said that Onions raised in heat during the early months of the year are "autumn sown." In such cases where Judges find no explicit directions in schedules they exercise their discretion, and as the rules of the show in question state that "Judges' decision shall be final," you can claim no compensation for the loss of the prize. Yours is by no means the first instance of disappointment of its kind nor will it be the last. To put all exhibitors of Onions on an equality three classes are required:—1, Autumn sown or winter Onions. 2, Under-glass raised and transplanted Onions. 3, Outdoor sown and grown spring Onions. You had better send a copy of this Journal to the Secretary and Committee, and suggest that they should be the pioneers in a change, which numbers of judges and exhibitors consider to be highly desirable.

Names of Plants (J. H.).—1, *Heuchera sanguinea*; 2, *Harpalum rigidum*; 3, *Leycesteria formosa*; 4, *Scabiosa caucasica*. (T. E. Z.)—1, *Aërides crassifolium*; 2, *Asplenium viviparum*; 3, *Gymnogramma chrysophylla*. (T. C. P.)—1, *Eryngium amethystinum*; 2, *Melilotis officinalis*; 3, *Lysimachia vulgaris*.

COVENT GARDEN MARKET.—AUGUST 2ND.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, Tasmanian, case	18	0 to 20	0	0	0
" English, per sieve	2	0	3	0	0
Cherries, ½ sieve	5	0	8	0	0
" cooking, sieve of 24 lbs.	4	0	5	0	0
Currants, red, per sieve	5	0	6	0	0
" black, per sieve	5	0	6	0	0
Figs, green, per doz.	8	0	6	0	0
Gooseberries, ½ sieve	2	9	0	0	0
Greengages, box of 40 to 48	1	8	2	3	0
Grapes, black	1	0	8	0	0
Lemons, case	14	0	0	0	0
Melons each	1	0	to 3	0	0
" Rock	2	0	4	0	0
Nectarines, per doz.	8	0	9	0	0
Peaches, per doz.	8	0	12	0	0
Pears, Californian, case...	8	0	6	0	0
" French Williams',	8	0	6	0	0
" 86 to 56 in a case	3	0	4	0	0
Pines, St. Michael's, each	8	0	6	0	0
Plums, English, per sieve	5	0	6	0	0
" Californian, case...	4	0	8	0	0
Raspberries, doz. punnets	8	0	6	0	0

Trade quiet.

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1	0	to 2	0	0
Aubergine, per doz.	1	6	2	0	0
Beans, ½ sieve	2	6	8	6	0
" Longpods, ½ bushel	1	0	0	0	0
" Scarlet, ½ sieve	2	6	8	0	0
Beet, Red, doz.	1	0	0	0	0
Cabbages, per tally	7	0	0	0	0
Carrots, per doz.	8	0	4	0	0
Caniflowers, doz.	2	0	4	0	0
Celery, new, per bundle	1	9	0	0	0
Cucumbers, doz.	2	0	4	0	0
Endive, doz.	1	6	2	0	0
Herbs, bunch	0	8	0	0	0
Leeks, bunch	0	2	0	0	0
Lettuce, doz.	1	8	to 2	0	0
Mushrooms, lb.	0	6	1	0	0
Mustard and Cress, punnet	0	2	0	0	0
Onions, bag, about 1 cwt.	4	0	4	6	0
Parley, doz. bunches	2	0	4	0	0
Peas, per bushel	8	0	6	0	0
Potatoes, cwt.	2	0	6	0	0
" new	5	0	10	0	0
Shallots, lb.	0	8	0	0	0
Spinach, per bushel	0	0	4	0	0
Tomatoes, per doz. lbs.	2	0	4	6	0
Turnips, bunch...	0	8	0	4	0
Vegetable Marrows, doz.	1	6	2	0	0

Tomato trade firmer; arrivals still heavy.

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8	0	to 4	0	0
Asparagus, Fern, bunch...	2	0	2	6	0
Carnations, 12 blooms	1	0	2	0	0
Eucharis, doz.	4	0	6	0	0
Gardenias, doz.	1	6	2	6	0
Geranium, scarlet, doz.	4	0	6	0	0
" bunch.	4	0	6	0	0
Lilium Harrisii, 12 blooms	8	0	4	0	0
" longiflorum, 12 blooms	4	0	6	0	0
Lily of the Valley, 12 sprays	8	0	15	0	0
Maidenhair Fern, doz.	4	0	6	0	0
" bunch.	4	0	6	0	0
Marguerites, doz. bnchs.	8	0	to 4	0	0
Mignonette, doz. bunches	4	0	6	0	0
Montbretia, per bunch	1	0	1	6	0
Oreida, var., doz. blooms	1	6	9	0	0
Pelargoniums, doz. bnchs.	4	0	6	0	0
Roses (indoor), doz.	2	0	8	0	0
" Red, doz.	1	0	2	0	0
" Tea, white, doz.	1	6	2	6	0
" Yellow, doz. (Perles)	2	0	8	0	0
" Safrano, doz.	2	0	2	6	0
Smilax, bunch	8	0	4	0	0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitis, var., doz.	6	0	to 8	0	0
Aspidistra, doz.	18	0	8	0	0
Aspidistra, specimen	15	0	20	0	0
Boronia,	12	0	18	0	0
Crotons, doz.	18	0	8	0	0
Dracena, var., doz.	12	0	8	0	0
Dracena viridis, doz.	9	0	18	0	0
Erica various, doz.	8	0	6	0	0
Euonymus, var., doz.	6	0	18	0	0
Evergreens, var., doz.	4	0	18	0	0
Ferns, var., doz.	4	0	18	0	0
" small, 100	4	0	8	0	0
Ficus elastica, each	1	6	7	6	0
Foliage plants, var., each	1	0	to 5	0	0
Fuchsias, doz.	4	0	8	0	0
Heliotropes, doz.	4	0	8	0	0
Hydrangeas	6	0	10	0	0
Lilium Harrisii, doz.	12	0	18	0	0
Lycopodiums, doz.	3	0	4	0	0
Marguerite Daisy, doz.	6	0	8	0	0
Myrtles, doz.	6	0	9	0	0
Palms, in var., each	1	0	15	0	0
" specimens	21	0	68	0	0
Pelargoniums, scarlet, doz.	4	0	6	0	0
Stocks	4	0	6	0	0

Bedding out plants in variety from 8s. doz.



THE WOOL PROSPECT.

A FARMER is essentially a dealer and producer in one. Sometimes he trades in the raw material, at others in the manufactured. In the latter category we may class fat poultry dressed, butter, cheese, hay, straw, Potatoes, and Oats, these being all usable without the intervention of the middleman; and to this list we might add broken horses of all descriptions. His goods that are sold in the raw are cereals other than Oats, the living forms of beef and mutton, and wool.

There was a time when wool was the farmer's sheet anchor. Wool was not so fluctuating in price as the other of his wares. Given the sheep, the quantity and quality varied little with each year, the difference in quality being mainly in the wool buyer's imagination. It was a crop totally independent of weather, quickly secured, and easily stored. It was a pleasant sort of "extra," that came into being without any effort on the farmer's part. Whether the sheep were turning into good wether mutton, or performing maternal duties, the fleece was there just the same, the sheep—notwithstanding the epithet "silly"—being one of those unusual animals who can do two things well at once.

Clipping time used to partake of the nature of a festival; extra plums in the cake, extra ale in the can, and if the farm force was not equal to the occasion there were bands of noted clippers to be procured at little trouble. There might be the question of storing if prices did not tempt, and there was money in hand to pay the harvest wages, but generally the wool was sold soon after it was clipped. The markets in June and July were full of wool staplers, who, in hired gig, would sally forth to inspect one clip after another.

Of course there would be some little wrangle as to price, but the matter being amicably settled, sheets would be sent for, twine and packing needles, the immense weighs hoisted in barns or granary, and the work of weighing and packing begin. Usually a few friends and neighbours would assist, stimulated with a glass of sherry or, perchance, champagne. The buyer kept his record of weights, the farmer his also as a check. Packing wool in warm weather was an arduous job, and quite demanded a good tea afterwards, in which buyer and helpers all participated.

A change has come over the face of things. No longer are the buyers keen, no longer the sellers jubilant; prices have sunk so low that there is no profit or pleasure in the trade, and this one crop, on which the farmer relied to help him out of many a difficulty, is no longer of great intrinsic value.

There are several causes at work, and there seems at present very little chance of any improvement in price. Fashion has much to answer for, and fashion dictates a softer, finer class of wool than is supplied by the majority of our English sheep. English wool was at one time considered the best in the world for all general purposes. There was little importation of foreign staples, and they were so obviously inferior as to be of no account. But our foreign friends soon found this out, and as their mutton trade was no great thing they took to improving the wool by judicious crossings with some of our best and purest blood. Good rams were to be had at a price, and the enterprising foreigner was ready to find that price.

In Australia alone the number of sheep is 104,000,000, as against 74,000,000 in 1882. And it is not Australia alone we have to contend with. There is that formidable and new country of the Argentine. Not only does she flood us with foreign mutton, but pours her fleeces into our markets. The Cape, too, is not behind-hand; in fact, we seem to be the receivers of the surplus wool of all nations.

We fancy, too, our manufacturers get some of their finest staples

from the States, and of course for these super-excellent classes the prices are good. What we seem to want is a sheep readily convertible into the best quality of mutton, not too fat, not too coarse, and whose fleece is of the finest and most delicate texture. We are not quite sure if we are altogether wise in our crossing; we think we may be losing some of the definite distinctions for which our wool has been renowned. The pendulum of fashion is ever on the swing, and there may be a call for the old style of bright haired pure lustre.

We have come across one curious fact that indicates the growth of the sheep industry in Argentina. During the last nineteen years that country has imported for breeding purposes no less than 40,978 of our best long woolled sheep! Verily she must abound in shepherd kings.

Outsiders are apt to consider the grumble about wool price as one without adequate foundation. Sometimes figures will convince when words will not. We can easily remember the time ourselves when pure lustre made 2s. 6d. per lb., and when we were as children told off to pick the the lost pieces from off hedges and fences, and when the "dockings" were carefully washed and collected. Only one day last week we came across a place in a field where sheep had been docked, and no attempt had been made to save or pick up the fragments.

	1880, price per lb.	1898, price per lb.
Pure lustre ...	1s. 3d.	7½d.
Demi lustre ...	1s. 2d.	7½d.
Half-bred ...	1s. 2½.	8d.
Pure down ...	1s. 4d.	8d.
Mixed breeds ...	0s. 11d.	7d.
Mountain ...	0s. 8½.	6d.

Do these facts need any further comment from us?

WORK ON THE HOME FARM.

Notwithstanding the fact that some of them have been too heavy for the grain crops, the showers of the past few days have been decidedly good for everything else. Mayhap in some districts there have been no showers (rains in July being often local in their character), nevertheless many farmers have rejoiced, and are still rejoicing in the fact that their Turnips, though not as good or forward as usual, still show the possibility of a crop of some sort.

We see in the papers reports of the commencement of harvest; there is nothing ready in the Eastern Midlands, and we are glad that it is so, for much remains to be done in the Turnip fields, hay and Clover stacks must be thatched, and labour is scarce.

Turnips have grown well, and it has taken the men all their time to keep up with the thinning and weeding. The showery weather has been very favourable for the use of the horse hoe. As regards this district a Turnip crop is assured where the plant is good, but there are a few failures, one unfortunate having drilled Swedes twice without success, and is now trying common Turnips. Inquiry elicited the fact that only 2½ lbs. of seed per acre were sown. Well, if farmers will run the risk of losing a valuable crop for the sake of a lb. or two of seed it is their own fault.

We have met with another farmer who harrows his Turnips cross-wise. He harrows immediately after the first horse hoeing, if there is no fly damage. Light harrows with teeth widely set are the best.

Mangold are everywhere good; the last dressing of nitrate has been applied, the weeding all finished, and we can look forward to a fine crop with confidence. Lambs are doing well and will soon require a little Cabbage. A few carted into the pasture every day will get the lambs accustomed to them, and the quantity can be gradually increased. The ripe, well hearted Cabbage should be used first, and all those showing signs of splitting, as the latter soon rot when the rain penetrates them.

Late Potatoes are looking grand; fields of the "Up-to-Date" are like huge purple flower beds. Carrots have not done very well so far. They have grubbed a little, and have taken a great deal of cleaning. They require a more copious supply of rain, which would moisten the soil quite thorough.

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Journal of Horticulture.

THURSDAY, AUGUST 10, 1899.

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FLOREAT SALOPIA!

BEAUTIFUL Salopia! as indeed she is, rich beyond words in natural scenery, delightful, refreshing, balmy air; air from off the sea some thirty miles as the crow flies, and passing over the heath-clad mountains of Wales, air that intoxicates you; rich she is also in a courteous and hospitable people. It is not too much to take a liberty with a couplet from "Tam o' Shanter," and say—

Shrewsbury, whom ne'er a town surpasses
For honest men and bonnie lassies.

We talk of the spirit of the age, and the lessons to be had from various sources, and we may ask, What is the spirit that presides over, and that emanates from the great Shrewsbury Show? Well, anyone who has had the privilege of seeing that show in the beautiful Quarry grounds will at once say, that, predominating over everything is the spirit of the beautiful. Aesthetics is the ruling spirit, and rightly so in the town whose motto is "Floreat Salopia." See the schedule, which will give the key to this. The instruction given respecting the ornamental groups and plants is, "The Judges will be instructed to regard an original and artistic arrangement a great feature in the group classes;" and in the plant classes, "Effective staging to be taken into account by the Judges." Again, in cut flowers, "Tasteful staging will be considered by the Judges in addition to the flowers exhibited," and this law runs through all floral displays until it reaches its highest in the instruction as to dessert tables, where there is a "special notice." The Judges will be instructed to regard *quality* before *size* in all fruit classes;" and in the £100 champion Grape class, it is distinctly stated, "Neither size of bunch, as such, nor flavour, is to carry primary weight in the class, but *superior cultivation and finish* for the respective varieties, as large bunches may have inferior berries, and the flavour of all varieties cannot be developed at the time of the show."

It will be seen that the highest law of the horticultural world rules, and rules absolutely—perfectness, or its highest approximation, with

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beauty. That is as it should be, and all who go to Shrewsbury on the 23rd and 24th August will find it there. May the weather be good, then there is no fear of a want of visitors; and really, if the weather be not very favourable, that does not keep back the Salopians and their friends from their annual show. "Floreat Salopia!"—N. H. P.

[We give prominence to the contribution of the restful, yet watchful, "N. H. P." not only because of its excellent literary flavour, but because of its timeliness and suggestiveness.

It is just in time we would fain hope, to enable gardeners and garden lovers to make arrangements for visiting the greatest horticultural tournament of the year. There is no other exhibition in which garden produce is so fully represented in the several departments, and it may safely be anticipated that the best that is producible in them all will be forthcoming on the occasion in question.

The unusual magnitude and admitted excellence of the Shropshire Horticultural Society's show are due to a combination of circumstances. First, the exhibition may be said to be held at the harvest time of the gardening year, so far as any particular date allows of the greatest abundance of that which is beautiful and good being brought to a common and beautiful centre. In the parched south the flush of summer flowers, such as Roses, Carnations, and others, is, no doubt, over; but it is not so in the north and the west, whence they come in almost overwhelming numbers as fresh and bright as flowers can be. We have, then, a sort of second summer to southerners at Shrewsbury; and in addition—and a splendid addition it is—the first bright great flush of autumn beauty, the combination affording beyond all comparison the most widely representative and finest spectacular display of garden flowers of the year.

As in flowers so in fruits, and especially those which embody the greatest amount of cultural skill in their production. Nowhere else, so far as we know, at home or abroad, can so many triumphs of the gardener's art in the representation, cultural and artistic, of our choicer fruits be seen as at Shrewsbury. The great class mentioned by "N. H. P." ought in itself to make a show worth going hundreds of miles to see, as it will, if some of our first-class growers are not too much afraid of each other, and they are not, as a rule, lacking in courage. One fact at least they will recognise—they cannot distinguish themselves if they are not there.

We have been asked to state who is to be the Scottish judge in the great class referred to in the place of the late Mr. Dunn. Mr. McHattie of Strathfieldsaye has been chosen for the responsible position. It would not be easy to imagine anyone whose name would inspire greater confidence, and we are looking forward to a magnificent and well judged competition, while we are confident there will be no depreciation in either of the famous and numerous fruit classes.

Passing to vegetables, no one who may be privileged to witness the extraordinary display—for that is what it will be—can possibly say the "time" is not right for the development of the various kinds in the best condition in which they can be seen for use, while producing in their way a scene of beauty which they unquestionably typify in a very pronounced way. If they did not possess this attribute in their contour, colour, and artistic arrangement, beautifully dressed ladies would not crowd round them as they do to inspect and admire. One of the most characteristic features at Shrewsbury, immediately after the show is open, is the crowding of the vegetable tents by the leading families of the district. True, they press round the floral decorations and all other parts of the show, but they do not shun the vegetables.

Having regard, then, to the different sections of the show, the period at which it is held is an important factor as contributing to its extent, diversity, and success. Another factor is the generous policy adopted by the directorate in the provision of substantial prizes throughout, with now and then an extra "sensation" in commemoration of some event that happens, or is contrived to occur. This year it is the quarter-century anniversary, and hence the century of sovereigns in one class. But the generous policy does not end with the scheduled prizes. Show something, or many somethings, beyond the classes, and the fiat goes forth to the Judges to treat them well

with extras—medals, such as they deserve. Everything seems to be conducted in accordance with the principle—unwritten, but active—the better we treat our friends the more they do for us, and the more we give to the public the greater is the response.

Nor is there any niggardliness in respect to the Judges. Sufficient men are chosen for doing the work carefully, and as well as their abilities permit; and, moreover, they are allowed a chance to do their best by starting at the appointed time, instead of being deprived of a large portion of it by laggard exhibitors and their abettors—easy-going officials; so that if judicial errors are committed at Shrewsbury, they cannot be attributed to the show authorities. These gentlemen do all that can be done to make the show successful, and in this they succeed, while they give to all their coadjutors a hearty and hospitable welcome.

Those are some of the elements that have placed the Shropshire Society in the commanding position it has so well won, and rightly enjoys. Its coming show, as embracing the best products of amateurs, nurserymen, gardeners, and cottagers, will be the most extensive and diversified of the year. It will be held during "holiday time." What body of men can be found more worthy of a few days change and congenial recreation after a toilsome season than devoted and zealous gardeners—men who work regardless of hours when duty calls? There are, it is certain, many ladies and gentlemen who, if they were acquainted with the nature of the Shrewsbury Show and its great attractive force in the gardening world, would be glad to afford facilities and help for their gardeners to visit it, and to see for themselves ideals to attain. Most of them would be impressed with the splendid object lessons there, and be impelled to further effort in the discharge of home duties; and thus might the little offered holiday be a loss to none, but a gain to all.]

NYMPHÆAS.

I AM fortunate enough to have in the midst of my garden a "piece of water," consisting of a pool, fairly deep, and a stream, or "ditch" as my friends call it, about 100 yards long, and from 4 to 5 or 6 feet wide. It is supplied by a never-failing, though in summer very small spring, which rises about half a mile away, and the overflow supplies my stables with water. The water stands high, within from 3 or 4 to 18 inches of the grass path by the side, and keeps the same level in all weathers, owing to the constant supply and overflow.

I have long wished to properly fill and cultivate this water with the best and loveliest flowers, but my study of the lists of "Hardy Aquatics" in nurserymen's catalogues has shown me that, with the exception of the charming *Aponogeton distachyon*, which does very well, almost all the other named hardy flowers are simply wild unimproved English ones, most of which grow excellently in the River Gipping, 200 yards off.

Mr. Hudson's two articles in the Journal last September, however, on the new hardy *Nymphæas* gave me fresh and ardent hopes, which I have been endeavouring ever since at considerable cost, to carry out. I cannot hope, of course, in this short time, to write with the same experience as he has done; but I have learnt two or three points in their culture, which I think were unmentioned by him, and are of considerable importance.

The first is, that it seems to me he wrote, last September, just too late, and that I am writing early in August for the benefit of those who wish to grow these charming flowers, just in time. For my short experience has taught me that the period for planting is most important, and that from the middle of June to the end of August is the best time. Mons. Latour-Mariac, the raiser of most of these splendid hybrids, says, "Expeditions are made (which sounds like Major Marchand, but only means Water Lilies) from April 1st to the end of September," but I would strongly recommend that they be not planted before June. They are likely to die if planted before the sun is hot, and the water and mud comparatively warm; and if they do not die they stand still, and all the vegetarian insects and creatures of the water naturally think they are placed there solely as food for them. Besides, in the summer the plants, which stand a journey as ominously well, are of course much finer and stronger, and in better condition to make fresh roots and leaves at once. It is evidently also an advantage for next year, and against autumnal planting, that the plants should have established themselves as much as possible by large

healthy leaves during the present summer, and therefore I endorse Mons. Latour-Marliac's dictum that "Contrary to a gross error the months of July and August are very favourable for the plantation of *Nymphæas*," and advise strongly that those who do not wish to lose a year should purchase and plant at once.

As another point, without going into descriptions, of which I am at present incapable, a broad hint or two, on general manners and customs, will probably be found useful. Thus, the American kinds, odorata and caroliniana varieties, are bad starters, not at all unlikely to die back a bit at first, but fine when once established. All the Marliaceas are much better in this respect. Again, the Laydekeri varieties are decidedly small both in flower and leaf to what we are accustomed to call Water Lilies, and very beautiful; but it is as well to expect and know that they are small: and the pygmæas are very small indeed.

Again, as to pests. Any ducks or waterfowl, wild or tame, or any water rats, dogs going into the water, or anything of that sort, must be utterly tabooed to start with. It must be remembered (probably will, by those who buy them), that these plants are very expensive. And, as one of Dickens' American characters remarked to Mark Tapley, there are some "catawampous chawers in a small way, too, which graze upon" Water Lilies "pretty strong." Water insects and snails will play havoc with the unfortunate delicate leaf-stems of the new plants, and do them considerable harm by biting off the first leaves. My own water swarms with caddis worms, which did me a great deal of harm.

And here I should like to point out that if it had not been for the nature and shape of my water, I should have been perfectly helpless. If they had been planted in a lake or pond any distance from the bank, it would have been impossible to have frequently overlooked and cleansed them; whereas in my stream, by carrying a light plank, laying it across and lying upon it face downwards, each plant can be thoroughly observed, cleansed, kept under control, and in fact cultivated two or three times a day if required.

It was necessary to protect them from the caddis worms, and even then several plants were killed outright. Eventually we surrounded each one with large panes of glass, but these were soon covered with a green growth, and the "caddies," as my man called them, easily climbed them. We took the glass out and scrubbed it every four or five days. We were not going to be beaten, and we have not been, but it has been a "sair job," and we have worked hard for every plant. A good deal of the trouble arose from planting too early, in May, when "caddies" were rampant, and the plants would not grow. Our enemies are nearly all changed into flies now, and the plants grow so strongly that all except the weak growers are pretty safe against their attacks.

I would also like to point out, as the advantage of a long and narrow piece of water, as it is of a Rose bed, that you and your visitors can walk by and look close right down into the plants and flowers and pluck them without trouble, instead of viewing them far off from the banks of a lake where they cannot be reached without a boat. They can be weeded, too, cleansed from flannel weed, restricted if they ramble too far, and generally are far more under cultivation in such a situation. Running water is not necessary, or even desirable if the same level can be maintained, as quite stagnant water is warmer.

I have some "Rainbow" trout in my water, which I have succeeded in taming so that they will rise to food at any time in the presence of visitors. I have not yet entirely realised my ideal, which was that, in the midst of my Roses, I should have this charming high-lying piece of clear water, in which the trout, at my bidding, should make veritable rainbows of themselves, jumping over Water Lily flowers of ruby, orange, red, purple, yellow, and white; but I am getting on towards it. I should have mentioned that I only planted in baskets two or three of the more expensive varieties, as in my water, by the aid of the plank, even a large *Nymphæa* can be as effectually planted in the mud at the bottom as it could be in a flower bed. My water averages about 15 inches deep, which I think would be generally suitable for *Nymphæas*.—W. R. RAILLEM.

THE CARROT ROT.

"Dad, can you make use of this strong salt mixture in which the Walnuts for pickling have lain?" "Well, yes; it is just a sort of drastic I have been thinking about to apply to the Carrots, for no sort of surface dressing seems to have any effect to prevent their dying off, so let 'kill or cure' be my motto. By Jingo! yes, it is strong! I will add to it one-third or so of your soapuds from the washing, and give the rows a good soaking with the mixture as far as it will hold out, for fungus, rot, or whatever it may be, attacks the roots from the bottom.

The above cottage colloquy happened about a fortnight ago, and I certainly anticipated the Carrots operated upon to become as withered

grass. Several times a day I visited the patients, and in about a week's time greenness prevailed. Now chimes in our old friend "A. D.," on page 78 (no pickled mixture would serve to kill his inquisitiveness); and now you, Mr. Editor, come to back him up in his "suggestions" by "wanting to know." Well, here you are—at least are two bunches of Carrots, one pulled at random from a pickled row, the other from those non-pickled. It appears to be a case for your ubiquitous fungologist Mr. Abbey. At any rate, "aphis" is not at the bottom of the mischief, but a rot is, as I enable you to see.

Of course a pickle-walnut brine could not be made universally available, but a strong salt brine easily could be, to possibly make an end of the cause, or the Carrots; plus, you will say, "the samples do not offer a character of good cultivation," no more they do. I never sow early. We do not approve of large produce, and if I had attempted to thin them out we should not have had a sound one left. My Carrot bed this year is in the new orchard, between the Apple trees, where the ground is more taxed by the roots of the trees than that in the open garden, nevertheless the cultivation is good if not deep.

I have no other produce to complain about *re* blight or diseases. Potatoes are all right. The Rev. Alan Cheales came from Reading to see me a few days ago, and we examined, of course, roots of the noble tuber, all my own children, off the same ground, and from the same consecutive seed, with which you and these pages have been so long familiar. We naturally went in to the Fendleri crosses of Jubiles and Birthday History. Success attended us in the shape commercially, prospective of food for the coming generation. One of the variety is already perfect for a "Garden" "A. D.," and what other do I want? Have not I always worked for "garden" varieties, my masters? I am anxiously trying now to hybridise two of my old English sorts with the latest comer, sent to me by Mr. Pringle—viz., the wild species "Solanum bulbo-castanum (Duval), from Guadalupe, Old Mexico." I am not quite sure as yet whether I can prevail over Dame Nature this season; but, as you know, I am about to strike eighty-four, my blandishments may not prove so potent, yet I hope the dear lady in this instance, for the above age reason, will not keep me in dalliance for twenty-five years, as she did with S. Fendleri, from New Mexico.—ROBT. FENN, *Sulhamstead*.

[In reference to the rot—the Carrot rot, of course—Mr. Abbey says:—"The plants from the untreated part are infested by the so-called Parsnip mildew, *Peronospora nivea*, which frequently occurs on the roots of Carrots and Parsley, and is commonly called 'canker.' It is sometimes very common on both these crops in gardens, as well as upon the leaves, stems, and roots of wild Umbelliferae. In the case of garden Carrots and Parsley, also Parsnips, the attacks are chiefly confined to the fleshy roots, and mostly, especially in the case of Carrots and Parsley, from below upwards, the mycelium of the parasite spreading from the radicle into the more fleshy parts of the Carrot or Parsley root stem, and lying in the intercellular spaces, or boring through the cell walls, and drawing nourishment from the contents of the cells by means of numerous minute suckers (haustoria). The host plants—Carrots, or Parsley, or Parsnips—are soon destroyed by the fungus, or at least the parts affected, the roots become brown or black, either dry up, or, if fleshy, they become soft, rotten and pulpy.

"The sample of Carrots from the dressed part are not entirely free from the canker, for evidently the 'rot' was beginning before the plot was dressed with 'Walnut pickle and soapuds,' as the radicle, or tap roots, are slightly cankered, and at points ranging from 2½ to 3½ inches from the crown. Clearly the effect of the dressing has been to arrest the growth of the fungus, which has not ascended in the root or made any further progress, as the Carrots above the point of original infection are quite sound, clear in skin, and free from taint in the flesh and core. On the other hand, the untreated Carrots are black and rotten to within 1 to 1½ inch from the crown, and in one instance quite up to this, the crop being practically worse than worthless.

"There were not any grubs or maggots, or any trace of there having been any insect larvae in the diseased specimen. Only a solitary mite was found, and that the root-mite, *Rhizoglyphus echinopus*.

"As regards the salt as a remedy or preventive, its action would tend to strengthen the plant by rendering mineral food available, while possibly the chlorine tells directly on the fungus. Of course, the use of salt has long been known as a valuable dressing for Carrot grub, but much Carrot canker is not due to animal infestation, a great deal being a consequence of attack by a vegetable organism, and hence the success of the 'Walnut brine and soapuds dressing.' A dressing of kainit, 5 cwt. per acre, 3½ lbs. per rod, answers well for preventing either 'rust' caused by the Carrot fly, *Psila rosæ*, or 'canker,' or 'rot' induced by Parsnip mildew, *Peronospora nivea*. About 10 cwt. of salt per acre, 7 lbs. per rod, has been used on light land against the 'rust' with considerable success for over half a century."]

VENTILATING VINERIES IN HOT WEATHER.

DURING the frequent spells of tropical weather which we have experienced within the last few years the Vine grower has to be on the alert to turn such times to good account, for with proper management the broiling sunshine, which some are inclined to regard as an evil, is a great aid to the cultivator, who knows full well that with abundant moisture at the roots, clean foliage, and ample ventilation, the berries swell rapidly, or, in the later stages, colour as if by magic.

It falls to the lot of the majority of gardeners during the course of their career to have to deal with houses having widely different characteristics, and it takes time to find out the best way to deal with each. It is not often that one meets with vineries having an aspect due east, but I once had to manage a range so situated, and the ventilation required the sharpest attendance in early morning of any vinery it has been my fate to handle. On mornings which preceded a hot day the sun was glaring on the roof long before six o'clock, and although a little air was left on all night, I found it necessary to increase the amount soon after five in hot weather. By doing that, and taking care to keep well in advance of the increasing power of the sunshine, the inside of the house was kept comparatively cool and pleasant, and the Vine foliage at no time showed any great distress.

When the man in charge of such a house falls in the least behind with ventilation it takes hours to get the temperature to feel comfortable and cool. Air may be rushed on quickly to make up for a late start, but it does not deceive an experienced man who may enter the house an hour after, for the feeling of "stiffness" remains, even if scalded berries do not proclaim neglect. Vineries having an east or south-east aspect are well adapted for black Grapes, as they can be closed early in the afternoon with plenty of moisture to insure berries of large size, and this early closing, when the Grapes are beginning to colour, is a great aid towards securing high finish. Muscats, however, do not succeed well in houses facing due east, as they get too short a period of sunshine to secure the "golden" tint.

At the present time I have to deal with a span-roofed vinery, having a very steep roof, and it is necessary early in the day to work the top ventilators very freely in proportion to the bottom ones, for although the temperature may feel quite cool when walking along the central path, at the apex of the roof it gets terribly hot if air is given in the way adapted for houses of ordinary description; a thermometer in such a house is absolutely no guide in maintaining a suitable temperature, and in bright weather it is never safe to close this house so early in the afternoon as in the case of an ordinary span-roofed structure. Still the Vines succeed remarkably well, and I am inclined to think that many vineries would be better adapted for Grape growing were the roofs steeper, for a comparatively flat roofed house is always hotter at mid-day than one having a more acute angle, because the sun shines straight down upon it. In private gardens the glass structures are often situated in an enclosure, bounded by high walls backed up by trees, which shut out sunshine early in the morning, but when "King Sol" rises above the tree tops he strikes the houses suddenly and fiercely. In such cases an observant man will soon learn to know the time to increase the ventilation, so as to prevent a rapid rise in temperature, a state of affairs which all plants growing under glass do not relish.

When Vines are trained close to the glass it is always better to err on the side of giving too liberal ventilation in early morning than in the opposite direction throughout the summer months, but during the prevalence of cold winds in spring, a great deal of watching is needed, or the tender foliage receives a check. In all instances the air should be gradually reduced during the afternoon, as the sun loses power, instead of suddenly closing the whole of the ventilators, which is another frequent cause of scald in the berries. When black Grapes are in the early stages of colouring, the management of the ventilation should be almost the same as while the berries are swelling, except that a little air must be left on both at the top and bottom of the house; but by the time the berries are about three parts coloured, that is quite black at the points with a tinge of red or green around the foot-stalks, air should be much more freely admitted.

In very hot weather the best advice I can give is, "Save unnecessary labour, and secure perfectly black Grapes by leaving the bottom ventilators wide open night and day, and just lowering the top ones sufficiently to allow rain to run off in the right direction, or in the case of the old-fashioned sliding sashes, draw them up far enough to prevent rain from falling upon the bunches. There is, however, no exception to this bold procedure—viz., houses which contain *Madresfield Court Grapes*. In their case it is never safe to leave much bottom air on at night, as a dewy night or an unexpected shower will cause the berries to crack wholesale. Muscats require quite different treatment, and need little if any night ventilation, except when the weather is very hot, or the houses situated in a sunny position on the slope of a hill. Under ordinary conditions this fine Grape will colour perfectly without having the time honoured chink of air left on all night, provided air-giving receives due attention throughout the day.—H. D.



THE DELL.

As year succeeds year and Baron Schröder's collection of Orchids increases in extent and value, one is constrained to surmise on what the eventual result will be. Crowded as it now is with some of the rarest plants in the Orchidæ, many of which are absolutely unique, it is impossible for anyone who cannot pay at least a weekly visit for a year to thoroughly appreciate its remarkable extent. Each time one calls at The Dell one is sure to find either an *Odontoglossum*, a *Cattleya*, a *Cypripedium*, a *Lælia*, a *Dendrobium*, or other Orchid that is of its type superior to anything one has seen elsewhere. The interest is thus more than maintained, for it becomes greater with each visit in speculating what the next glory will be. Then constant additions are being made of the choicest plants that are introduced, either from distant climes or as results of the hybridist's art, and these alone naturally increase the attractions of a visit, for there is always the hope that one or another will be in flower.

On several occasions I have been to The Dell, and under the skilled guidance of Mr. Clark, the Orchid grower, have made a tour of the numerous houses. Not only are the plants in flower called attention to, but also plants of some of the choicest hybrids and bigeners, all of which are characterised by splendid health. Several of these that went as single specimens are growing in numbers, and the juveniles have not yet all flowered, but will later add to the laurels of their parents. The peerless *Odontoglossum crispum nobilissimum* has grown in numbers and in beauty, and, despite the newer varieties, is still, in the opinion of some of the greatest experts, the foremost crispum in cultivation. Not only does it produce superb flowers, but these are on perfect spikes. Numerous are the types of crispum and other *Odontoglossums*; they are all thoroughly well grown, and representative of what a collection ought to be.

The *Cattleya* house was at the time of my visit a most beautiful sight, and included in perfection some lovely flowers of *Cattleyas* and *Lælias*. Of these *C. Warneri*, *Gaskelliana alba* and *dolosa*, with *L. purpurata Schröderæ*, were particularly conspicuous. Then in another house was a peculiarly charming picture in the form of splendid plants of *Vanda teres* rising from a groundwork of Maiden-hair Ferns. As the *Vandas* are all of the best varieties, this proved a most interesting sight, as the delicate hues of the flowers were beautifully shown up by the green fronds of the Ferns. Scores of plants of *Miltonias* were producing spikes of fine flowers in a cool house, and amongst them were one or two varieties decidedly above the average of merit.

The magnificent *Cœlogynes*, which alone are sufficient to make the reputation of any collection of Orchids, were not flowering, but their condition told tales of past glories and of future triumphs. Several are in immense baskets, upwards of 3 feet across, but some of the largest have been divided to increase the number of plants. All the choicest are at home. *Maedevallias* made a more brilliant array in one of the smaller houses, some of the flowers being exceptionally rich in colour, while others were characterised by the quaintness of their hues. In one of the large span-roofed structures the *Thunias* were in perfect condition, the splendid plants carrying perfectly developed flowers. *T. Bensoniæ* was most conspicuous, and richer coloured blooms could scarcely be desired by anyone.

It is well within the bounds of possibility that many visitors would have considered the most beautiful sight to be the collection of *Dendrobium Dearii*, which is known to be somewhat difficult of successful cultivation. The Dell specimens were simply loaded with flowers pure in colour, of great substance, and exceptionally large size. They adorned the houses in which they were luxuriating in a manner that could scarcely be rivalled, and certainly not excelled. Two other *Dendrobiums* that were particularly observed were *Lowi*, with its spurred yellow flowers, and *MacCarthiae*, whose pinkish rose and white flowers received much admiration.

Perhaps, however, at the particular moment of this visit the *Cypripediums* were in the finest form, for the species, hybrids, and varieties were very numerous. This genus is one of the most useful in the entire Orchid family, as by judicious selection flowers may be had throughout the whole year, and these, as is well known, last a very long time, either on the plants, or cut and placed in water. They are

grandly grown at The Dell, and comprise all the sections included in the genus. Handsome in both leafage and the flower is *C. Antigone* (fig. 26), which was raised some years ago from *C. Lawrenceanum* and *C. nivenum*. The colour of the flowers is white, chastely veined with rose-purple. A species that always attracts notice by reason of its distinct colour is *Mastersianum*, of which the type grown at The Dell is of exceptional excellence. Then look at such as *Stoneli platytænium*, *callosum* *Sanderæ*, *Curtisi*, *Lawrenceanum*, varieties of *bellatulum*, *Gadelroyæ*, and *niveum*, and some very remote idea may be had of the extent of the collection and of its widely diversified beauty.

It is impossible at this period to enter into an extended description of the entire collection of Orchids of which Mr. H. Ballantine has had charge for such a long period of years. The task would be too great unless ample time for note-taking and transcription were at command. There would be the *Phalænopsis*, *Aërides*, *Angræcums*, *Anguloas*, *Batemanias*, *Bletias*, *Brassias*, *Bulbophyllums*, *Chysis*, *Cymbidiums*, *Disas*, *Epidendrums*, *Habenarias*, *Lælio-Cattleyas*, *Lycasteas*, *Maxillarias*, *Mormodes*, *Oncidiums*, *Peristerias*, *Phaius*, *Sobralias*, *Pleiones*, *Renantheras*, *Zygopetalums*, *Saccolabiums*, in addition to those briefly referred to as well as numerous others, each of which would demand attention, and this list will prove how formidable the undertaking would be. As this cannot be done, they must be reluctantly left, but future visits will be looked forward to in the hope that when the time comes there will be in flower as many varieties as was the case a few weeks ago.—AMATRUR.

THE WOODLANDS CYPRIPEDIUMS.

We have on more than one occasion made more or less extended reference to the magnificent collection of *Cypripediums* that is grown at The Woodlands, Streatham, by Mr. J. Coles for R. H. Measures, Esq. As is comparatively well known it is in several respects unique, and under the fostering hand of Mr. Measures and the cultural skill of his gardener it is constantly improving. We have now before us a *Bijou* (Gazette, which has been edited by Messrs. F. Sander and Co., and is made up to June 1899. In it is embodied the names and parentage (where known) of all the hybrids, with their raisers and dates, as well as the discoverers and the years of introduction of the species grown. As a chronicle of *Cypripediums* the little book is most useful. It is admirably produced.

ODONTOGLOSSUM HARRYANUM.

This species is destined by the aid of the hybridiser to take a front place in the parentage of hybrid *Odontoglossums*. The colours of the flowers are so well known as not to need a description from me. *O. Harryanum* when well grown is a most beautiful plant, and grows with me best in the *Cattleya* house; but I find the plants flower more regularly if they are placed in a cool house for two or three of the hottest months, where the increased amount of air they receive thoroughly ripens the pseudo-bulbs. It is an Orchid of easy cultivation, and thrives in a compost, used rather rough, of equal portions of peat and moss.—J. BARKER.

ODONTOGLOSSUM HALLI.

This makes a fine display just now, and is far easier to grow than *O. crispum* or *O. Pescatorei*. The spikes are long, and contain a large number of flowers; the sepals and petals are yellow, with very irregular purplish markings; and the lip varies in colour according to the variety. In *O. H. xanthoglossum* it is yellow, and there are also white forms and intermediate shades. The plant is best grown in pots of medium size, using peat and sphagnum moss in a rough open condition for compost. No particular resting and growing seasons will be noted, but water supplied in greater or less quantity, according to the state of the weather and the growth. It likes quite a cool house, being a native of Ecuador.

ODONTOGLOSSUM CIRRHOSUM.

The flowers of this species are quite distinct from everything else in the genus, and some of the larger spotted rose-tinted varieties are difficult indeed to beat for beauty and elegance. But it is surprising what a number of plants may be handled without getting a really good form, many plants having the bad habit of pushing up strong

and almost barren spikes. It likes a very moist and cool régime all the year round, and the usual treatment recommended for *Odontoglossums*.

LÆLIA CRISPA.

Why this pretty Orchid should be thought so little of it is difficult to understand, for certainly in its best forms there are few species so beautiful flowering at this somewhat dull time for Orchids. It is equally as good as a moderate form of *L. purpurata*, and the lip colouring and crest are strikingly handsome. Its culture may be briefly stated to be much like that usually given *L. purpurata*, and it is more constant in its habits on the whole than this.

EPIDENDRUM NEMORALE.

The plants included under *Epidendrum* are very mixed, many being of botanical interest only, and this fact I think accounts for the little liking that orchidists as a rule have for them. But it is unfair to think that there are few plants in the genus that are worth growing, for as a matter of fact there are many. *E. nemorale*, for instance, is a fine garden Orchid worthy a place in the best collections and a very pretty addition to any. The flowers occur on tall, many-flowered panicles, and are individually from 3 inches to 4 inches across, the sepals and petals light rosy mauve, the lips deeper in colour and streaked with purple.

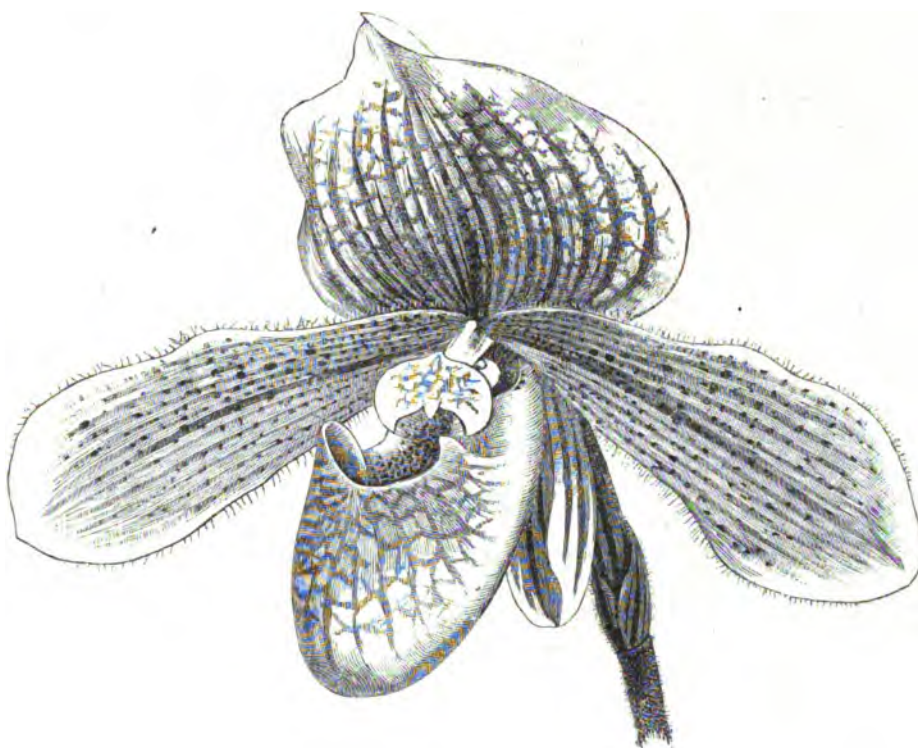


FIG. 26.—CYPRIPEDIUM ANTIGONE.

Under cultivation *E. nemorale* has not always been a success but this may in some cases be accounted for by the fact that growers have treated it to too much heat and moisture, with too little light. Coming from the high mountainous regions in Mexico, it naturally resents being treated like a plant from swampy, low, and hot positions in the tropics, and will be found to do better at the cool end of the *Cattleya* house. Observe its seasons of growth and rest, and meet them by increasing and diminishing the water supply respectively. For compost use equal parts of peat and moss over good drainage.

MASDEVALLIA PERISTERIA.

Looking at the centre of the flowers of this species we note a peculiar and striking resemblance to the Dove Orchid, *Peristeria elata*, and it was doubtless this peculiarity that led Professor Reichenbach to give it this specific name. As a flowering plant apart from this it has not perhaps much to recommend it, yet it is pretty and interesting. It may be dealt with similarly to the showy flowered section of the genus, only lightly treated with regard to compost and watered freely all the year round. It was discovered by Wallis in New Grenada some sixteen years ago, and sent by him to Messrs. Veitch & Sons of Chelsea.

CATTELEYA HARDYANA.

A hybrid between two such fine *Cattleyas* as *C. gigas* and *C. aurea* would naturally be expected to be something out of the ordinary, and this *C. Hardyana* undoubtedly is. It is being raised in several

collections, and it is to be hoped that all who try to produce it will use the best forms only as parents. Now that its parentage has been proved without doubt, we should soon see it getting more plentiful and cheap, when it is bound to become one of the most popular. Its culture does not differ much from that of *C. gigas*, and it delights in a light warm position while growing. The colouring on the lip when first open is very beautiful, and it must be classed as one of the most gorgeous of all *Cattleyas*.

SACCOLABIUM BLUMEL.

Small plants of this grand old species in baskets suspended from the roof are very beautiful when carrying the long cylindrical racemes of flower, but cannot compare with larger and freely flowered plants such as are all too rarely seen nowadays, though they are amongst the finest plants in existence. In large tropical houses where ample light is assured no difficulty will be found in its culture, but a little care in ripening in autumn is necessary.—H. R. R.

THE IRIS.

(Continued from page 81.)

THERE are two great divisions in the Iris family—viz., those that are rhizomatous, and those that are bulbous—i.e., those plants which grow from a rhizome, and those which grow from a bulb.

A rhizome is the name given to an underground stem when its shape is cylindrical, to a creeping stem in short. It is easily distinguished from a root by the fact that it ends in a bud, and bears leaves or scales. It gives out roots here and there. In the autumn the aerial leaves disappear, but the rhizome lives through the winter, and in the spring its terminal bud goes on growing.

The Iris that are rhizomatous are the huge family of *Iris barbata* (Bearded Iris), the Beardless Iris, and the Japanese Flag Iris, usually called *Iris Kämpferi*, from the fact of Kämpfer having discovered the type.

We next come to the great family of *Iris germanica*, or *Iris barbata*, Tall Bearded or German Flag Iris. This has been divided by Mr. Barr into seven groups, each with distinctive colouring. First there is the type, *germanica*. This and its varieties flower in May. The best variety of this section is *Kharput*. There are about eight varieties, the colours of which are shades of blue and violet.

Next we have the *Aphylla* section. All the flowers of these have a beautifully coloured frill-like margin on a white ground, the best being *Gazella* and *Madame Chereau*. There are about six prominent varieties of this.

Then there is the *Ancena* section. In this the standards—i.e., the upright petals—are white; the colours of the falls are mostly shades of lavender and purple. This is a somewhat large section. Best: *Comte de St. Clair*, *Mrs. H. Darwin*, *G. Darion*, and *Victoria*.

The next section is *Neglecta*. The standards of this range in colour from lavender to purple. The best varieties are *Borçay*, *Cordelia*, *Florence Barr*, and *Lavater*.

The fifth group is the *Pallida* section, the best examples of which are *Albert Victor*, *Dalmatica*, *Princess Beatrice*, *Queen of May*, and *Walner*.

The *Squalens* family follows, and here the standards are of cloudy shades of copper, bronze and fawn. The best examples are *Dr. Bernice*, *Harriett Weir*, *Jacquinianna*, *Monsieur Chereau*, *Rachael*, and *Salat Jung*.

The *Variegata* section is remarkable for the standards being all yellow. There are a great many beautiful specimens in this group, such as *Gracchus*, *Hector*, *Robert Burns*, *John Fraser*, *Maori King*, and *Darius*.

There are various other beautiful Tall Bearded Flag Irises not included in these sections, such as *albicans*, *Princess of Wales*, *sambucina flavescens*, and *Baxteri*.

And now we come to what I think is the most beautiful of all Irises, and that is *Iris laevigata* or *Kämpferi*, the Clematis-like Iris of Japan. Mr. Barr, in speaking of these Iris, uses words which I fully endorse. The magnificence of these splendid new Japanese Iris surpasses any written description that I could give of them. The large flat flowers measure from 6 to 8 inches in diameter, with a breadth of petal 3 to 3½ inches; the prevailing colours are white, red, purple, crimson, rose, lilac, lavender, French grey, purple, violet and blue. Each flower usually represents several shades, while close under the petaloid stigma there is a brilliant yellow or orange blotch or feather, more or less conspicuous, and almost always surrounded, except in the whites, by a halo of blue or violet.

They are the last of the Irises to flower, their season being from June to August. They consist of two great divisions—those that have single flowers, and those that are duplex. The best varieties I know are *Aki-Chylo*, *Kogo*, *Komachi*, and *Pride of Japan*.

Mr. Barr, in speaking of their culture, says that these plants are semi-aquatic, and are seen in their full glory when grown in swamps

and marshy places. My experience, limited I must own, as to this way of growing them, is not favourable. I have no water myself, but a friend of mine has a small pond. I took one of my *Kämpferi* Iris to his gardener, and had it planted in exactly the position indicated by Mr. Barr, but it has not yet flowered.

I grow them, but not, I admit, successfully in an open border backed up by trees and shrubs, giving them all the water I can. Still I own that I have lost a very large number of them. The best position, I should say, is the dampest and lowest part of the garden, with partial shade. It will help the plants if a good soaking is given them once a week of weak liquid manure. The soil should be good fibrous loam. If any readers are successful in growing these plants, they will be perfectly amazed at the glorious flowers they produce.

We now come to the second great division of the Iris—viz., the bulbous section. This is a very numerous group, though not quite so much so as the rhizomatous. There are two great classes of these flowers, the English (or *xiphioides*) and the Spanish. The first are called *Iris anglica*, and the Spanish (*Xiphium*) *Iris xiphium*, a native of Spain and North Africa.

Besides these there are a great number of other varieties, some of the most conspicuous examples of which are *I. reticulata*, *I. histrio*, *I. stylosa*, which are very early blooming sorts, coming even before the Snowdrop or the Winter Aconite. Another beautiful flower is *I. Bakeriana*, blue and white; *I. orchoides*, yellow; and *persica*, pearl blue and white; and *alata*, pale blue, are all early.

The varieties of Spanish and English Iris are so numerous that it is difficult to make a selection, but I can safely recommend *Mont Blanc*, pure white; *Ruby*, crimson purple; *Grande Coeleste*, blue; *Argus*, pink and spotted; and *Emma*, French grey; from the English section; and *Snow Queen*, white; *Jaune Brillante*, orange yellow; *Blue Beauty*, violet; and *Catherina*, sapphire, blue and white; from the Spanish.

The Spanish varieties bloom about a fortnight before the English. Their flowers are more vivid in colour, but are smaller in size. Their tubes are quite narrow, whilst the English open out to large broad falls. There is one enormous advantage of these flowers that I must name. They can be picked directly the tips of the spikes show colour, and be packed quite safely and sent by post. As soon as they are placed in water the blooms develop.—J. B. M. CAMM.

(To be continued.)

BLACKBERRIES.

OF the British wild fruits the Blackberry has been up to the present the most neglected, and yet there is none that would so well repay cultivation if combined with judicious selection with a view to improvement. What is the precise number of species of *Rubus* indigenous to Britain is hard to say, as almost any number from five to forty-five has been authoritatively given. But that is a question which need hardly trouble the man who wishes to improve the Blackberry so as to make a good and payable market fruit of it.

For a beginning *R. laciniatus*, a hybrid, the parents of which are unknown; *R. radula*, a sweet tasting species; *R. pubescens*, a sharp flavoured species; and *R. Balfourianus*, the earliest of all, could be tried, but many others would probably prove equally useful. These four are all vigorous growers, free in bearing, and the fruits are of good size and fairly firm. *R. laciniatus* is a well known plant, and can be readily obtained, but the others might be difficult to get true, unless from a botanic garden or someone with a thorough knowledge of this intricate genus. A thorough search along country lanes and hedges, or any wild spot where Blackberries have a chance to properly develop themselves, would result in many good forms being obtained. These, if noticed when the fruits are ripe, could be lifted at once, or a few fruits could be gathered for seed. The best counties for Blackberries are Devon, Cornwall, Gloucester, and Somerset, and in some parts of Kent and Surrey good ones may be found.

Any portion of a garden exposed to the sun would grow Blackberries, though, like everything else, the better the treatment the finer the result. There is very little labour required beyond cutting away the old fruiting canes, as in Raspberries, and giving a good mulching after the fruit has set. If the proper kinds are obtained and worked in a systematic manner, good Blackberries could be had from the end of July, when *R. Balfourianus* is ripe, until the advent of frost. It may be objected that there would not be sufficient market for Blackberries to pay for the ground and the labour involved in producing them. Why not? So far as can be ascertained no attempt has ever been made to put them on the market in a systematic manner. Blackberries can be seen in many fruiterers' shops every year, but they are picked in a wild state in country places, and a smashed, unsavoury-looking mess they usually are. It might as well be urged that wild Strawberries or Crab Apples could compete with the splendid fruits we now have of each as to say the wild Blackberries could hold their own against cultivated ones.

Selection has produced the Strawberry, the Raspberry, the Apple, and other fruits as we know them to-day, and selection and cultivation would do as much for the hitherto neglected Rubus. The material is to hand, the ground and the labour would cost little, and if the result were failure, which is extremely doubtful, there would be very little loss.—C.

VEGETABLE CROPS AND THEIR INSECT PESTS.

SPEAKING generally as to vegetable crops here in the centre of the Midlands, the drought of last year and this has seriously diminished the output, and success, whole or partial, is only the portion of those who have dug deeply, manured wisely, sown timely, and kept cleanly. Good cultivation tells this year its lesson, to those who have eyes to see, in very plain evidences; and those who cannot see, or will not see, but are stupidly bound up in their own conceit—well, nothing will teach them, I suppose, except losses. "Experience is a dear school, but fools will learn in no other."

Potatoes are good but small, with no sign of disease as yet. There was great complaint at the outset of the season of patchy plantations, by the failure of seed here and there not germinating, or not germinating first eyes, the general opinion, whether right or wrong, being that seed had been caught by frost, either before planting or in the rows after planting.

Celery so far is clear from the fly as a rule, but the main crops are backward, and needing much attention in watering where late planted. Parsnips are looking well all over. Carrots are not a first-rate crop in many instances, and the aphid has seized on some, but the drought is telling powerfully on most of the crops. The greatest foe to Carrots in the Midlands is the enemy at the end of the roots stopping their further growth, and eating little holes into the stems of the roots, whether insectivorous or fungoid I cannot say.

Broad Beans are generally good and clean, but are quickly over, ripening fast in the present drought. Peas are the worst as to the main crop. The first sowings came out all right, but later sowings, especially on dry soils, with no watering arrangements, are very thin and poor, the late blooms shrivelling up. A few thrips are evidenced here and there, but not generally. Farm Peas, like farm Strawberries, are quickly over, and the late sowings in gardens, even in trenches, do not look at all prosperous or fruitful. Scarlet Runner Beans are also feeling the effect of the drought; the bine is weak and thin, and the flowers are setting badly. Dwarf Beans are better, and notably so where they have had the benefit of water.

Cabbage plantations were, in the majority of cases, patchy, with an unusual number of "bolters," and were clear of caterpillars until just lately. They are bad enough now. Cauliflowers ran quickly into heads, and said heads flew open with lightning speed. The early Lettuce was all that could be desired, large, full, succulent, but in this drought it is quite a business to keep a good head, particularly of the Ccs family. Spinach, also, has been electrically quick; it was sown, in flower, yellow, gone, almost before you could say the usual "Jack Robinson!"

Turnips; ah, me! what with the "fly," and what with "grub" and "rot," there are very few left of the first sowings; the later sowings (July) look a little better. Red Beet is looking well, it is a relief to chronicle something prospering. Onions where ordinarily spring sown, say in March, are not looking at their best, but those which were sown under glass in January or February in boxes, and planted out, are really fine, and the autumn-sown ones are monsters.

Vegetable Marrows are looking well, so far, this year, and do not seem affected by the "yellows," as they have been in many cases the last year or two. Drought suits Vegetable Marrows no doubt when they have a good old hotbed to send their roots down into, or a well-filled trench.

Well, I have said something of vegetable crops, but little of insect pests, and do not, as a rule, bother about them; they belong to those ills of life—the gardener's life—that have to be endured, though no doubt some of them can be cured.—N. H. P.

—VISITORS TO KEW IN 1898.—The number of persons who visited the Royal Botanic Gardens during the year 1898 was 1,277,215; that for 1897 was 1,239,683. The average for 1888-97 was 1,444,716. The total number on Sundays was 484,054, and on week days 793,161. The maximum number on any one day was 71,871 on May 30th, and the smallest 67 on November 21st. It is remarkable that, while the total number fluctuates within comparatively narrow limits, the aggregate attendance on week days increases, while that on Sundays diminishes. In 1891 they nearly balanced. The detailed monthly returns are given below: January, 20,643; February, 19,995; March, 33,844; April, 182,494; May, 181,551; June, 169,003; July, 212,338; August, 251,971; September, 124,059; October, 39,206; November, 23,787; December, 18,324.—("Kew Bulletin.")



ROSES IN YORKSHIRE.

THE accident of circumstances brought me near Richmond recently, and having an hour to spare I thought I would call on Messrs. R. Mack & Sons at Catterick Bridge. As it was over twenty years since I had been there before I was most anxious to see the nurseries again, and although my visit was hurried I was more than repaid by the magnificent and enormous quantity of Roses in bloom. In one enclosure there were 5 acres in full bloom.

Messrs. Mack & Sons, as thorough rosarians, affirm that the Teas should be budded on the Briar only, and H.P. on the Manetti, and results proclaim the advantage of the practice. All Messrs. Alex. Dickson & Son's Roses are doing well. Our visit was too short to obtain many names, but Mrs. J. Laing was making marvellous growths, and Clio, an improved Capt. Christy, was simply flourishing, whilst Mrs. W. A. Richardson was revelling and covered with blooms, as well as Gloire de Dijon. Altogether 30 acres are devoted here to Roses, on a loamy soil over gravel; at Scorton, another nursery belonging to the firm, there are 35 acres on a loam over clay, and this year, the season being so dry, the Roses have been grand. Altogether over 800 varieties are grown. We forgot to mention that over 175,000 stocks for Roses was planted in 1898.

Since my last visit Mr. Mack has rebuilt his house, which is very picturesque, the design being a mixture of Swiss and Cheshire, and a most beautiful building it is, and the well-kept lawns in front of it and the maze adjoining give it more the appearance of a gentleman's private estate than a nursery.

I would advise any of your readers who are Rose struck in coming north not to miss this splendid sight. The nurseries are within 300 yards of the station, where trains frequently pass. The proprietors will give anyone a most hearty welcome, and Catterick Bridge is itself quite a floral treat. The genial stationmaster, Mr. J. Jeffrey, has for four years consecutively won the first prize for the beautiful way the station is kept, and the flower garden in which beds filled with the usual summer bedding plants and the well-kept turf is a treat in itself.—BERNARD COWAN.

CLIMBING ROSES.

ROSES are exceedingly effective flowering plants, because they furnish a crop of beautiful blooms suitable for cutting, or the flowers, if left to hang upon the bushes, are decorative. Some varieties produce flowers in succession, and these for general purposes are most useful, as they furnish a reasonable number of flowers at various times.

The culture of Roses on walls is comparatively easy, provided the aspect is good, light abundant, and the soil generous. The space for training the Roses on may be exceptionally ample and favourably situated, but if the medium for the roots is not suitable the results will be unsatisfactory. The majority of climbing Roses will thrive vigorously if the soil is deep and fairly moist, and at the same time well drained. Overhanging projections, which prevent rain reaching the soil, as well as the proximity of large trees and shrubs, are not conducive to continuous healthy growth, as the roots of the latter abstract the larger part of the food and moisture. To grow climbing Roses well, therefore, the soil must be deeply broken up, and a fair quantity of decomposed manure worked in. A space 4 feet square is not too much to prepare in this way, as it will give the plants a good start. Should the surrounding soil also be good the roots of the Roses will in time penetrate this, forming strong tap roots, which will promote vigorous shoots of great length.

South and west walls ought to be planted with climbing Teas and Noisette Roses, 8 or 9 feet apart. Autumn is the best time to plant, after the leaves have fallen. Strong, but not too large, plants must be used.

The best Teas for the purpose are Gloire de Dijon, one of, if not the most generally cultivated Roses for walls. It is a very hardy variety, and the flowers are very sweetly tea-scented. The colour is buff. It is seen thriving in positions where many others would not succeed. Reine Marie Henriette has blooms of a deep cherry red. It is a vigorous variety, and the flowers contrast well with Gloire de Dijon. Cheshunt Hybrid is a good dark coloured Rose of a cherry carmine colour. A good yellow Tea Rose for walls is Madame Berard, fawn yellow. The deepest yellow coloured Roses are found amongst the Noisettes. The best white is undoubtedly Climbing Niphetos. This is a pure white Tea. It has the recommendation of being a robust grower, and blooms freely.

A handsome Noisette, especially in the bud, is William Allen Richardson. A robust healthy plant will continue to produce blooms over a long period of a deep orange colour. Like many other Roses,

when the blooms are fully open they are not so beautiful. L'Idéal is a first-class Noisette Rose for walls. It is yellow tinted and orange red, and the blooms are sweet scented. The best white Noisette for walls is Aimée Vibert, a grand climbing Rose, bearing large clusters of flowers.

The Polyantha section of Roses has recently given an exceptionally good decorative Rose named Crimson Rambler. It is of very vigorous growth, and produces clusters of bright crimson flowers arranged in a pyramidal form.

The class of Roses which should be planted to cover unsightly walls or objects, and which require little or no pruning, are the Ayrshire or Evergreen section. They are very vigorous in growth, and bloom abundantly when left alone. The best varieties are Alice Gray, Dundee Rambler; both these are white and pink. Queen of the Belgians is white, and splendens white edged with red. The above are Ayrshire Roses. Of the Evergreen varieties Felicité Perpetué, creamy white; Princess Maria, deep pink; and Rampante, white, are excellent.

When climbing Roses become firmly established in the soil they are certain to produce vigorous shoots. Dryness at the roots is more fatal to free growth than anything, and more favourable to attacks of mildew. If possible afford water in abundance to the roots, also liquid manure, and spread a mulch over the soil of rich and generous material, which can be washed in.

Train-in the long strong shoots of Teas and Noisettes, cutting out wood that is exhausted, weak, and likely to crowd the trees. Well ripened wood will always produce flowers, therefore see that sun and air can reach the best shoots.—E. D. S.

EXHIBITION AND LECTURE ON ROSES.

IN pursuance of the scheme inaugurated by the Dumfriesshire and Galloway Horticultural Society, an exhibition of flowers, followed by a lecture on Roses, was held in Dumfries on 3rd August. The leading feature of the exhibition was a magnificent collection of Rose blooms shown by Messrs. T. Smith & Sons, Stranraer. Messrs. Palmer & Sons, Ltd., Annan, N.B., also showed good Roses. Mr. James Kennedy, Greenbrae, Dumfries, had Carnations of high quality, which showed evidence of cultivation of the best kind. Messrs. Kerr Bros., Dumfries, had fine herbaceous plants, Dahlias, Sweet Peas, and Carnations. Mr. James Service, Dumfries, made an interesting show of Sweet Peas, which formed a large collection. Messrs. T. Kennedy & Co., Dumfries, had a good exhibit of herbaceous flowers and Dahlias.

Mr. J. MacKinnon, Terregles Gardens, presided at the well-attended lecture. The latter was delivered by Mr. T. Smith, jun., of Stranraer, and was an able exposition of the best methods of cultivation, with valuable information about stocks and other important questions in the culture of the Rose. A useful discussion followed, in which Mr. Smith's views were generally approved, and he was heartily thanked for his paper. The meeting was very well attended.

ONION CULTURE.

ONE would suppose, after the numerous contributions that have appeared testifying to the good results subsequent upon raising Onions under glass, that the practice would be now common. It is, however, a remarkable fact that many gardeners are quite unaware of the practice pursued, either as a means of increasing the bulk of the Onion crop, or as an almost certain way of circumventing the Onion maggot. The practice of raising plants on hotbeds is not new, and fifty or sixty years ago it was recommended as an approved method of producing Onions at once heavy and insect resisting. At the same time the system of sowing in autumn for stock to transplant in spring was in vogue, and this appears to have been the method which attracted the greater number of followers—that is, if we may judge from its continuing in practice till the present day, while the other was allowed to fall into disuse.

While having a personal liking for the system of raising plants in spring, it may no doubt be objectionable to not a few, on account of its adding a little to the load at a season when the last straw may be laid on at any moment, and to these autumn sowing can therefore be safely commended. The chief objection to sowing now is the facility with which the young plants in early summer turn from bulb extension to the production of flower heads. That, however, is largely a question of treatment, and it is worth noticing that the initial propulsion in the latter direction is very commonly due to thick seeding. Little is mentioned of premature flowering by the older gardeners, who sowed broadcast in prepared beds, and always so thinly that every little plant had room for healthy development. The newer system of sowing in lines has brought with it the regrettable practice of such thick scattering that the young plants are starved into precocious flowering, and valuable as the practice is when intelligently pursued, it is in that respect to be deplored that drill-cultivation is so largely followed.

For the reason just given, I would therefore recommend that the seeds be sown broadcast. A comparatively small extent of ground will produce several thousand plants, and as the labour of keeping the

bed clean and free from weeds will be very slight, there is no valid reason why in this one crop a reversion to an old practice should not take place. If, however, sowing in rows be determined on, seed thinly, or at least after the seedlings are well up thin these to a reasonable extent. The time generally recommended for autumn sowing is the end of August or the first week in September. It may occur as early as July, however, but in this case a variety slow to bolt, such as James' Keeping, should be selected in preference to those of the Spanish type. Or if a cold frame can be utilised, sowing may be, on the other hand, deferred until the beginning of October. In any case, the soil must be prepared before sowing by thorough pulverisation, and if in an insufficiently fertile condition a slight dressing of spent manure will be advantageous. The soil, it need hardly be added, should be slightly compressed by treading; but this it is possible and easy to overdo, more especially if the soil is damp.

Some cultivators deprecate growing Onions on any system of transplantation on account of the extra labour they suppose must be entailed, and so they go on preparing ground every spring, thin their crops, and do battle with a foe that is always more or less victorious, and end the season with anything between half a crop and nothing. The fact is this "extra labour" is a bugbear, and they are frightened for an imaginary something that does not exist. Some gardeners, no doubt, give themselves a vast amount of labour transplanting into boxes and growing their plants for weeks when they would be quite as happy in the open garden. But such labour is unnecessary, and as a matter of fact the earliest moment the plant can be placed out, the weather being propitious and the soil in condition, the better they succeed. For this reason autumn sown stock should be transplanted as early in March as possible, and January raised plants in April.

Another point in their culture, perhaps, worth mentioning, and of importance to the keeping qualities of the bulbs, is that of feeding. I have no objection to highly manured ground, juicy cow manure in quantity, and a dressing of superphosphate when the plants are put out, in addition, because we cannot secure nicely flavoured Onions on anything short of high cultivation. But, as a rule, it is safe to stop at the original preparation, and this more especially in northern districts. The summer treatment therefore would be confined to repeatedly stirring the ground, and towards September watching that a second growth does not succeed a period of rainy weather. The treatment in this case is an easing of the roots of the bulbs, but in ordinary circumstances this will seldom be required. The old practice of bending the leaves is good, but it merits a thoughtful application, not crushing them suddenly, but pressing them gently down, going over the plants twice at intervals. This undoubtedly promotes the ripening of the bulbs, which should be completed when the crop is lifted by laying it thinly on trellises of wood till the process is completed. The large growing varieties, of which Excelsior is one of the best for ordinary kitchen use, keep quite as well as the smaller varieties.

Regarding the value of sowing in autumn or under glass in early spring as a means of staying the maggot there can be no question. Maggots are no doubt to be found, but the bulbs throw them off, and generally the wounds heal without causing any material damage. Three years ago, after having sown none in the open during the preceding three years, I sowed some in the usual way at one end of the quarter containing the transplanted plants. Maggots cleared off nearly the whole of the former, and left the others.—R. P. BROTHERSTON.

SPRING AND WINTER ONIONS.

I WAS much interested in the note on the above subject which appeared in the correspondence column, page 111, because it is a matter which at present is open to discussion. So popular is the method of raising Onions under glass becoming that in many village competitions growers who still adopt the old system have no chance whatever with the more up-to-date competitors. In some places the members of gardening societies have been discouraged from raising their Onions early and transplanting, and exhibitors have been disqualified on the ground that the bulbs were not spring sown. Both these courses are obviously wrong and not consistent with the aims of a gardening society. These institutions are supposed to be for the improvement of horticulture, and the main idea of any man who cultivates a garden, no matter whether large or small, should be to obtain the heaviest possible weight of good produce from the piece of ground he works. If by going to the trouble to raise and transplant his Onions he can effect the afore-mentioned object, then all the more credit to him, but to disqualify a man for doing his best on the ground that he has departed from a time-honoured rule, is putting a premium on his industry and does not savour of encouragement. The editorial suggestion that three classes for Onions should be provided instead of two would make a way out of the difficulty, but to throw Onions out of a spring sown class because they were raised in a greenhouse, frame, or perhaps in a cottage window, is in my opinion very unfair.—G. H. H.



RECENT WEATHER IN LONDON.—Storms have been frequent in London during the past few days, and, as usual, have varied considerably in severity. On Saturday, Sunday, and Monday there were showers, but on the latter day especially they were very light. Tuesday opened dull and cooler, but was brilliantly fine later. At the time of going to press on Wednesday it was cloudy.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, August 15th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. There will be a lecture on "Pruning," by Mr. R. P. Brotherston, at 3 P.M.

HEMEROCALLIS AURANTIACA MAJOR.—This is one of the best forms of the Day Lily. The blooms are quite 5 inches across, shapely in petal, but its great charm is its colour, an exceptionally rich orange yellow. The growth is all that could be desired, and the foliage is robust and handsome.—S. P.

CYPERUS.—The humorous dwellers in "Erin's fair Isle" have long been distinguished for their natural aptitude in "mixing" things generally in their inimitable way. It is, therefore, all the more interesting to find "K." of Dublin, putting me right (page 99) in regard to the Egyptian Papyrus. I wrote from memory, which it seems in this instance played me false. Many thanks, genial penman across the Irish Channel, for your pleasing note.—H. D.

STRAWBERRY CULTURE.—Keeping up the excellent idea of "comparing notes" I may say that this season has not been a favourable one. Royal Sovereign, Auguste Nicaise, and Latest of All constitute my three beds, which are moved all over the garden like other crops, remaining only two years in the same place. The runners are taken as early as possible, and are planted out, well rooted, in August. Some very fine fruits are obtained the first year after, but the following season gives the main crop. It does not pay to allow the plants to remain another year.—T. W. BEATON.

CARNATION ST. ANNE'S.—This is a new border variety, that has emanated from the Emerald Isle, and of which Messrs. W. Watson and Sons, Clontarf, send us a number of flowers. Lord Ardilaun's capable gardener, Mr. A. Campbell, at St. Anne's raised the variety, and it was named after the estate by the direct wish of Lady Ardilaun. The flowers are of medium size, and of a peculiar heliotrope shade, and fortunately are sweetly scented. The spikes sent prove St. Anne's to be exceptionally floriferous—indeed, a little more disbudding would have resulted in considerably larger flowers. The calyx does not appear prone to splitting. As it is of a colour that is just now fashionable, we think the variety should become popular.

CUT FLOWERS AT SOUTH PARK, REIGATE.—Although this local exhibition is chiefly for cottagers, and is held in the South Park Schools, yet every available inch of space is filled, and the exhibits are not excelled of their kinds at any similar show in the county of Surrey. But there are four classes with only small prizes open to the local gentlemen's gardeners, one of which is for bunches of cut flowers, distinct. There were four stands of twelve each, set up at the recent show on August 5th, and as each bunch was shown in a tube or vase standing on the table, a really remarkably fine display was made. I did not take note of the competitors' names, but all were good, the collection placed first being specially so. The whole made a beautiful bank of flowers, and those who show their bunches crowded into boxes would do well to copy the South Park gardeners in their methods of exhibiting if they want to win prizes, for box collections have no chance whatever against fine bunches of good flowers thus displayed. It has been my lot to see this season many very meagre blooms of various descriptions set up in boxes both singly and in bunches, utterly devoid of beauty. Show committees, especially those having control of cottagers' societies, would find bunches of six annuals, six hardy border flowers, and of six greenhouse or tender flowers, set up in vases or glasses, in separate classes to furnish far more beauty and variety than are seen in the poor things often found in or on boxes at these exhibitions.—A. D.

GARDENING APPOINTMENT.—Mr. B. Dockerill, for many years gardener to G. W. Palmer, Esq., M.P., Elmhurst, Reading, has removed as gardener to the same gentleman at Marlston House, near Newbury, Berks. Mr. William Parker has been engaged as gardener at Elmhurst.

HAMPSTEAD GREEN FOR THE PUBLIC.—A movement has been initiated in Hampstead for purchasing a part of the old Hampstead Green on Haverstock Hill for the public. A portion was given up for the site of St. Stephen's Church, and another small corner has been dedicated to the public, but the centre portion, about an acre in size, containing some fine trees, has been bought, says a contemporary, by a private purchaser with the idea of making the Green public property. The price paid was £7500.

BUTTONHOLE BOUQUETS.—The greatest mistake that can be made in arranging small bouquets for gentlemen's buttonholes is crowding. A single flower of an Orchid, or a single corymb of such a plant as *Hoya bella* makes a far prettier bouquet than those in four different kinds of flowers, bunched so that nothing shows its proper character. Yet whenever a society offers prizes for these the majority of competitors are not satisfied unless they set half a dozen flowers in each, and the result is a bunch that would charm an amorous ploughman. A number of Orchids are grown that are really excellent for the purpose; *Bouvardias* again are very fine, a single corymb of *B. Alfred Neuner* or President Garfield making a charming buttonhole. About half a dozen blooms of *Plumbago capensis* again is pretty for anyone who likes a blue flower, and there are many things worse than a choice Carnation or Picotee.—FLORIST.

MODELS OF FRUITS AND FLOWERS FROM AMBOINA.—Through the kindness of Dr. Treub, the Director of the Botanic Garden, Buitenzorg, Java, we have recently, says the "Kew Bulletin," been enabled to add many interesting specimens to the museum collections. Some examples of artificial fruits and miniature trees from Amboina, where they are said to be regular articles of commerce, are of special value. The fruits are formed of the pith of *Scaevola Koenigi*, Vahl, a shrub with succulent stems, distributed over Tropical E. Asia, Australia, and Polynesia; and the foliage is represented by feathers. The manufacture of these articles is not a modern introduction, as a reference to the "Herbarium Amboinense," vol. iv., p. 117, will show. Rumphius there gives an interesting account of the uses of this plant. In "Hooker's Journal of Botany and Kew Garden Miscellany" (vol. iv., 1852, p. 349), the employment of this plant for the manufacture of artificial flowers is also referred to as being fully described by Rumphius before 1690.

THE JOURNAL OF THE KEW GUILD.—No. 8 of this journal is just to hand, and it is certainly one of the most interesting that has been published. As a frontispiece is given a lifelike portrait of Mr. W. Botting Hemsley, F.R.S., who has recently succeeded Mr. J. G. Baker as keeper of the Herbarium at Kew. A brief sketch accompanies the illustration. Then, too, is given a report for the year 1898-99, in which the Committee considers the progress to be generally satisfactory. Notes are included of the various meetings of the Guild, of special features in the gardens, and of Kewites past and present. Illustrations are not perhaps sufficiently numerous, but are of excellent standard. We observe that the Committee deplores a decrease in annual subscriptions, but we trust that at the next general meeting the tide will have turned, and additional members will be a cause for congratulation. A list of old Kewites is given at the end of the journal, but there is no apparent indication as to whether or not they are members of the Guild. Mr. W. Watson is the Secretary.

CLETHRA ARBOREA.—For a cool greenhouse or conservatory this makes a very useful plant at all times of the year. In winter its handsome, deep green, glossy evergreen foliage makes it a good plant for grouping with forced deciduous shrubs, while in summer, when smothered with its large panicles of Lily of the Valley-like flowers, it is one of the showiest of greenhouse plants. Introduced from Madeira upwards of a century ago it was grown largely in many places, when cool house plants were more popular than at present. Although it can be well grown and flowered as a bush in a small pot it is seen at its best when planted out or given a large tub; in this way the foliage is much better and the panicles of flowers finer. When planted the roots should be pruned every three or four years, otherwise strong growth will be made at the expense of flowers. When put in a tub loam, peat, and a little crushed bones should be used for the compost, and when the tub is well filled with roots liquid manure should be given frequently. Besides the type there is a variety with pretty golden variegated foliage.—W. D.

— **IRIS MONT BLANC.**—This variety of the English section of Iris is one of the best for the open border in the month of June. The pure white blossoms, each with a faint yellow stripe, are very showy and useful for cutting, as they last a long time in water.—B. W.

— **HELENIUM BOLANDERI.**—A free-flowering border plant that is deserving of extended cultivation is *H. Bolanderi*. The deep black disc and pale yellow petals render it an object of great attraction. In growth it reaches 3 feet in height, and in the profusion of its blossoms it is all that could be desired.—E. M.

— **ISLE OF WIGHT.**—The monthly meeting of the Isle of Wight Horticultural Improvement Association was held at Newport on Saturday, Dr. J. Groves, B.A., J.P., presided over a fair attendance of members. Mr. T. Robinson of Hildyard, Sandown, read a paper on the "Cultivation of Grapes," dealing with the methods of propagation, making of borders, and the general requirements. The subsequent discussion was taken part in by the Chairman and Messrs. Midlane, Collister, and others. The exhibits staged consisted of seedling Cannas by Mr. J. H. Silsbury of Shanklin; spikes of *Agapanthus umbellatus* by Mr. G. H. Honeybourne of St. Wilfred's, Ryde; *Lilium auratum* by Mr. W. Dyer, Broadlands, Newport; and plants of *Delphiniums* staged by Mr. H. Webber, Newport. The adjudicators, Messrs. Collister and Robinson, awarded a F.C.C. to the seedling Cannas, and a certificate for cultural merit to the *Delphiniums*. A thoroughly enjoyable evening was brought to a fitting conclusion by votes of thanks being accorded to the essayist and the exhibitors. The subject for the next monthly meeting will be "Garden insects."

— **TRIPS TO THE CONTINENT.**—There can be no doubt that the splendid facilities that are now provided by our great railway systems have done immense service to holiday makers by allowing them for a moderate outlay to quickly reach any desirable place at home or on the continent. In catering in the most up-to-date manner for the travelling public the Great Eastern Railway Company must be accorded a very prominent position. Not only can one reach the many places of beauty and interest in East Anglia quickly and cheaply, but by the aid of the now celebrated Hook of Holland route they tap the continent with an expedition that would scarcely have been deemed possible a few years ago. The Company, however, not only carries the travellers comfortably, but with the experienced aid of Mr. Percy Lindley acts as guide and adviser. This is done through the medium of excellently printed and admirably illustrated handbooks, of which we now have three before us. The descriptive matter of the scenery, the roads, and towns is clear and readable, and is so full of useful information that all persons contemplating trips should write to the continental department of the G.E.R. Liverpool Street Station for the books, which can be read and utilised to the advantage and comfort of every traveller.

— **THE INFLUENCE OF CAMPHOR IN THE GERMINATION OF SEEDS.**—From time to time in the past certain discoveries have been made in horticulture which have attracted transient attention merely from their novelty and, being regarded as trivial and unimportant, have been cast aside and almost forgotten, without being followed up to any useful conclusion. But it is not the part of wisdom to pronounce as trivial any fact in nature that is imperfectly understood. Very many years ago it was discovered and recorded that water saturated with camphor had a remarkable influence on the germination of seeds. There the matter was dropped. But a German—the German scientists are patient investigators—having observed a record of this effect of camphor, took up the clue and pursued it to learn whither it would lead. He took seeds of various sorts, some being three or four years old and possessing but a slight degree of vitality, and placed them between sheets of blotting paper. Some of the sheets he moistened with pure water and others with camphorated water. In many cases the seeds did not swell at all under the influence of the simple moisture, but in every case they germinated when they were subjected to the camphor solution. Extending the tests to different kinds of garden seeds, old and new, the result always showed a singular awakening of dormant vitality, and a wonderful quickening in growth. The young plants thus stimulated continued to increase in growth and development with a vigour and vivacity much beyond that of those which were not so treated. Yet, when pounded camphor was mixed with the soil it appeared to exercise rather a bad effect upon the seeds, the dose being possibly too strong. The tests are believed to have established the fact that a solution of camphor stimulates vegetables as alcohol does animals. Whether the strange power this dosing appears to possess over the latent life of vegetable germs can be turned to any practical account in gardening is an interesting question.—("Hertford Times.")

— **HEREFORDSHIRE CIDER AND PERRY FRUIT.**—It is proposed to hold in Hereford this autumn an exhibition of cider and perry fruit, followed by a conference on the general subject. Mr. Radcliffe Cooke, M.P., who is taking the lead in the movement, says: "There is a growing feeling that the time may come when our successors, if not we ourselves, may regret our neglect to renew and extend our orchards of cider Apples and perry Pears."

— **JULY WEATHER AT DOWLAIS.**—Rainfall, 0.90 inch, which fell on nine days. Greatest fall, 0.30 on the 1st. Same period 1898, 1.02 inch. Temperature, in the shade, 71.806°. Highest, 82°, on the 30th; lowest, 38°, on the 27th. There were six sunless days. The wind was in the S.W. on twenty-five days. A hot dry month, with the wind quiet on the whole.—WM. MABBOTT.

— **SUSSEX WEATHER.**—The total rainfall at Stonehurst, Ardingly, for July was 2.62 inches, being 0.04 inch below the average. The heaviest fall was 1.48 inch, on the 23rd, which fell in half an hour, with a heavy thunderstorm. Rain fell on six days. The maximum temperature was 89°, on the 20th; minimum 48°, on the 2nd and 14th. Mean maximum 79.11°, mean minimum 56.12°; mean temperature 67.56°, which is 5.09° above the average. An extremely hot dry month. Over 2 inches of the rain fell on two days, the 1st and 23rd; on the latter day it did very little good, except on level ground when the surface was stirred. The second spit of our free open soil is now as dry as the top one.—R. I.

— **JULY WEATHER AT BELVOIR CASTLE, GRANTHAM.**—The wind was in a westerly direction eighteen days. The total rainfall was 1.79 inch. This fell on twelve days, and is 1.03 inch below the average for the month. The greatest daily fall was 0.43 inch on the 7th. Barometer (corrected and reduced): Highest reading 30.470 inches on the 31st at 9 A.M.; lowest reading 29.444 inches on the 1st at 9 P.M. Thermometers: Highest in the shade 83° on the 19th, lowest 46° on the 5th; mean of daily maxima 71.87°, mean of daily minima 54.82°. Mean temperature of the month 63.09°; lowest on the grass 43° on the 5th, highest in the sun 139° on the 19th. Mean temperature of the earth at 3 feet 60.41°. Total sunshine 211 hours 10 minutes. There were three sunless days.—W. H. DIVERS.

— **THALIA DEALBATA.**—It is usually the custom to grow this South American aquatic indoors, but that it is perfectly hardy and looks infinitely more at home out of doors is seen by the several large clumps in the lake and ponds at Kew. These were planted several years ago, and have grown and flowered well each season. As long as they are covered in winter with a few inches of water severe weather appears to have no effect on them, as they stood the frost of 1895 without injury. When fully established and growing strongly, the ovate glaucous-looking leaves surmounting long slender petioles 3 feet high, rising above which are the elegant spikes of purplish flowers, make a most conspicuous object, especially if planted a little way in the water so as to rise among a mass of *Nymphaea* or other flat-growing plant. For those who wish for a variety of hardy aquatics this should certainly be given a trial. If at any time during winter it is necessary to empty a pond or lake containing this plant it is a good plan to cover the crown with a mound of hay.—K.

— **CISTUS FLORENTINUS.**—Observing a mention of this plant on page 99, may I be allowed to suggest that the plant which generally bears the name in gardens is certainly not *C. florentinus* of Lamarck's Dictionary, but one of the varieties of *Cistus hirsutus* (Lamarck), probably the variety *platysepalus*? I rely upon the most recent monograph of *Cistaceae*, by Willkomm, published in 1856. He reviews and criticises all the portraits in Sweet's "*Cistaceae*," a better known and commoner work. In Sweet there is a good portrait of *C. florentinus* (tab. 59). Willkomm, however, does not believe in this as a species, remarking that the characters are nearly identical with those of *C. monspeliensis* (Sweet, tab. 27). Willkomm says he has never been able to see a living specimen of *C. florentinus*, and rather doubts its existence as more than a variety of *C. monspeliensis*. Sweet figures *C. hirsutus* three times over—viz., tab. 19 (the type), tab. 47 (var. *platysepalus*), and tab. 33 (var. *psilosepalus*). On referring to these portraits and the descriptions of them, it will be seen that all of them are much nearer the *Cistus* generally grown as *florentinus*, than is the true *florentinus*, as represented and described in Sweet. The most obvious difference is in the breadth and shape of the leaves. I have only once seen the true *florentinus* in cultivation; that was in Kew Gardens, where it is no longer to be seen, though *hirsutus* still grows there.—C. WOLLEY DOB Edge Hall.

— **PEACH HALE'S EARLY.**—As a July and early August Peach in a cool house this bright and handsome American variety would be hard to beat. It comes in nicely as a succession to Alexander, Waterloo, or Ameden June, and before the excellent Peach Early Grosse Mignonne, one of the best that is grown. To do Hale's Early well, and get the colour and flavour into the fruit, the tree must be thinly trained and well fed. Then it will carry as heavy and good a crop to perfection as any variety I know.—C. H.

— **PROTECTING POSTS.**—A new coating to protect posts surrounded by earth from rotting, is prepared, according to the *Baugewerkszeitung*, from resin, 50 parts; finely crushed chalk, 40 parts; fine white sharp sand, 500 parts; linseed oil, 4 parts; native red cupric oxide, 1 part; and sulphuric acid, 1 part. First heat the resin, the chalk, the sand, and the linseed oil in an iron kettle, then add the oxide and the sulphuric acid with caution, mix everything carefully, and paint the wood with the hot mass, using a strong brush. If the mixture is not liquid enough, it is diluted with a little linseed oil. When the coating is dry, it forms an extremely hard varnish, which allows no moisture to enter.—('Scient. Amer.," 86, 185 ex. "Pharmaceutical Journal")

— **FUNKIAS.**—Delightful effects may be secured in shaded situations by grouping several varieties of Funkia together. *F. grandiflora* alba, the large flowered, sweet scented, late blooming sort best known to amateurs, is the choicest of them all, but the other varieties should be better known. *F. grandiflora* in large groups faced with *F. variegata* is a telling combination. *F. variegata* with *F. subcordata* are good planted together, the flowers of the two being alike, but the foliage quite unlike, and to this group, says a transatlantic contemporary, might be added the late blooming *F. lanceolata* to lengthen the season of bloom. *F. Sieboldi* would combine well with any of the others, its darker lavender flowers appearing in July. All of these kinds massed together in a suitable location would make an effective piece of planting.

— **SWEET PEAS.**—Few hardy annuals are more generally admired when used in a cut state than these delightful flowers. New classes of plants and flowers are each year brought to the front and remain the rage for a limited time and then sink into oblivion. But however many flowers there may be of various descriptions to cut from, a daily supply of Sweet Peas for filling glasses is always welcomed. A great variety of colour may be obtained from a few packets of mixed seeds, and many effective combinations may be worked out with them. Although the great value of Sweet Peas is well known and fully appreciated, in many cases sufficient attention is not given to their culture to secure the best results, especially in cases where the soil is naturally light and poor. In such instances the rows should be mulched with well decayed manure as soon as the plants have grown to the height of 18 inches or 2 feet, and should the weather prove dry a thorough soaking with water can be given once or twice during the season. The little extra labour thus given is amply repaid by a continuous supply of extra large flowers. I know nothing more effective for arranging with them than pieces of *Dactylis glomerata variegata*. This hardy and easily grown Grass is so useful for a variety of purposes that it deserves even more attention than is at present accorded to it.—D. C.

— **LONDON'S RIVERSIDE BOULEVARD.**—One of the pleasantest and most beautiful walks in London just now is along the Embankment between Blackfriars and Westminster Bridges. There has not been a summer since the avenue of Plane trees was planted on that splendid highway of the world that the trees have looked in such excellent condition as they do this year. As a rule there is the rustle of dry coppery leaves overhead and under foot towards the end of July. But here we are launched into August, and every tree is as luminously and freshly green as if it stood in some ideal park in the country. However sultry and glaring it may be in any other part of town, there is all day long cool refreshing shade on either side of the Embankment, and to say that this is one of the finest city roads in Europe, or perhaps in the whole world, is no exaggeration. The Paris boulevards and Unter den Linden in Berlin are nowhere in comparison. The great beauty of the trees is due to the care which is so wisely bestowed upon them by the County Council. Last winter the soil round every one of the trees was renewed, and all through the spring and summer a watering-cart has given them large and regular drinks, with the result that a new beauty has been added to London, which alike delights the country cousin and the foreigner who are now invading town, and the wretched Londoner who is obliged to spend the holiday month in harness.—('Westminster Gazette.")

— **THE FIBRES OF THE PHILIPPINES.**—The Manila Hemp or Albaca is by far the most important of the fibre plants of the above named islands. Its fruit is not edible, but in general respects the plants are like the Plantain or Banana. According to a contemporary there are numerous grades, distinguished by their colour and consistency. Nearly the whole crop is placed on foreign markets, and it forms a most important item in the Philippine export trade. Many of the Cottons yield different quantities and qualities of fibre. Aloes, Pine Apples, and various species of Palms are greatly used as fibre plants.

— **LIVERPOOL AMATEUR GARDENERS (N.A.G.A.).**—With the greatest show that has ever visited Liverpool in our midst, small wonder was it that the attendance at the monthly meeting held in the Common Hall, Hackins Hey, Liverpool, on Thursday last was somewhat poorly attended. However, although the exhibits were small the quality was choice and the classes well contested, Mr. Dale's single and double Begonias and Carnations taking all before them. Mr. D. W. Cangle's Gladioli and Mr. R. H. Hoskyn's Gloxinias were in superior form, while the Hollyhocks from Miss Hunter had the distinction of securing a certificate and special prize. A hearty welcome was extended to Mr. J. M. Smyth, the Hon. Secretary, on his return to the duties which he so ably performs.—R. P. R.

— **RATING OF MARKET GARDENS.**—Judgment was given, on Thursday, by the Lord Chancellor, in the House of Lords, in an appeal which raised the question whether market and nursery gardens, upon which are greenhouses and other structures used for productive purposes, can claim the benefit of the Agricultural Rating Act of 1896, which relieves the occupier of agricultural land of half the rates in respect of the hereditaments and buildings upon his holding. At Worthing the overseers had returned a market garden and the structures upon it as agricultural land, but the surveyor of taxes treated them as buildings. The question was carried by way of appeal through the courts, and the noble and learned lords now affirmed the judgment of the Court of Appeal, that a market garden with its buildings is not agricultural land within the meaning of the Act.—('Lloyd's News.")

— **LITHOSPERMUM PROSTRATUM.**—Like many of my gardening friends I had for several years some difficulty in establishing this Alpine shrub in a satisfactory manner, but I have now overcome all obstacles, and am yearly rewarded with a lovely patch of brilliant blue flowers almost rivalling the Gentians close by. Our clump is growing on the bottom ledge of a rockery about 1 foot high; the roots run between this and a high upright stone at the back of the clump, which is favourable to moisture. I find this plant requires abundance, indeed during a spell of hot dry weather our plant receives copious supplies every week; were it not so the leaves and young shoots would soon exhibit a drooping appearance. The position is quite open to the midday sun, but cooler in the morning and evening. Peat only is what the plant is growing in. Being rather straggly I layered all the branches, using rough lumps of peat only, the result being a compact mass of short growths, which are annually smothered with the charming blue flowers so much appreciated. To two things I attribute my success—the use of peat only for the roots to ramble in, and abundance of moisture at the roots.—GROWER.

— **METHEOLOGICAL OBSERVATIONS AT CHISWICK.**
—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1899.										
July and August.										
Sunday .. 30	N.N.W.	deg. 69.9	deg. 62.2	deg. 81.5	deg. 59.5	ins. —	deg. 68.3	deg. 65.1	deg. 61.2	deg. 49.3
Monday .. 31	N.E.	68.2	60.0	75.4	51.5	—	69.1	65.5	61.2	45.5
Tuesday 1	S.E.	68.8	62.1	79.5	54.2	—	68.2	65.7	61.3	45.0
Wednesday 2	E.S.E.	71.5	62.1	77.7	49.5	—	68.2	65.7	61.5	41.3
Thursday 3	E.S.E.	71.5	64.8	80.1	60.0	—	67.7	65.5	61.6	52.5
Friday .. 4	S.E.	69.9	64.5	77.1	61.5	—	68.5	65.5	61.6	50.7
Saturday 5	E.	70.5	64.2	80.6	59.2	0.04	68.3	65.5	61.7	55.6
MEANS ..		69.8	62.8	78.8	56.5	Total 0.04	68.3	65.5	61.4	50.1

The weather during the week has been very hot, with rather high drying winds. A small quantity of rain fell on the 5th.

LONDON GARDENS OVER FIFTY YEARS.

No. 11.

WANDSWORTH was to have been the finish of our walk after quitting Vauxhall, but somehow, in the article preceding, we turned elsewhere, and did not reach our destination, to which we now wend our way. Named from the river Wandle, which flows through the village before it enters the Thames, Wandsworth was much benefited by the stream that fertilised the fields and gardens along its course, also carrying off superfluous water from rainfall. It received many springs in its windings formerly, like other minor rivers which helped to swell the volume of Thames water, so seriously reduced now. One of the circumstances which made Wandsworth famous was its election of a mock mayor, called the Mayor of Garratt, an event which usually took place at every general election, the scene being a little hamlet amongst market gardens between this suburb and Tooting. Thousands flocked to it from all parts of London. The election having been made, there was a grand procession through Wandsworth with an escort of horsemen and music.

About 1567 a large number of emigrants came to England from Flanders, flying from severe persecutions, and many of them settled round London, others were scattered over the southern counties, a few went northward. Wandsworth had its share of these Walloons, and they managed to have a church of their own, also a burial ground, called "Mount Nod," still to be visited in East Hill, which contains some noteworthy memorials. Many of the emigrants had skill and taste in gardening, but those who came to Wandsworth seem to have been chiefly occupied in weaving straw and wool. Possibly some of them grew Beans and Asparagus on the fields of Battersea, or forced Grapes for spring eating in pits and low houses, which Holland had learnt to do centuries ago. Then the Flemings excelled in producing choice Pinks and Roses, amongst other florist's varieties, and one of our guests is supposed to have introduced double flowers.

Unlike some London suburbs, Wandsworth never was a region of market gardens; it had a few nurseries scattered along the course of the main road. It resembled Clapham in having afforded a rural home to many merchants, who surrounded their mansions with parks, and cultivated vegetables, fruit, and flowers in extensive gardens. Twenty-five years since there were several of these yet remaining about Lavender Hill and Battersea Rise, their magnificent trees, says a stroller, standing like giant guards, bidding defiance to the destroying angel—the ruthless builder. But they got the worst of it, and miles of bricks and mortar have taken possession of these hills. Did gardeners ever cultivate Lavender thereabouts? Some say so, hence the name. I never remember seeing the plant conspicuous on the slopes between Wandsworth and Battersea, though some other fragrant herbs were grown for the market in patches amongst vegetables.

When the acres attached to the Firs and Normandy House had been seized by the builders, there yet remained on the hill the nursery of Mr. Merryweather; but this, too, was doomed, so he migrated to another plot of land not far distant, to the satisfaction of his Wandsworth friends. He settled in Wix Lane, towards Tooting, taking a garden surrounded by fine old hedges of Holly and Hawthorn. This was ten or twelve years ago, but the "Horticultural Directory" of the present year reveals the fact that he has been again disturbed; his vineries and flower beds there are things of the past.

Probably the Watercress grounds of Wandsworth have also vanished. These were near the main road, in a spot very suitable for the culture of this salad. The pleasant-named Springfield Nursery, now held by Mr. Chard, diminished in space, is a memorial of rural Wandsworth. Valler's Nursery has ceased to exist. Near Battersea Rise, a tavern bearing the sign of the "Brookland Arms" reminds us of Brookland Nursery, a branch establishment commenced in 1850 by the well-known nurseryman, Mr. Knight of Chelsea, who then occupied the establishment carried on these later years by Messrs. Veitch & Sons. Mr. Knight took 12 acres of the higher ground of Battersea, chiefly for the cultivation of young trees, the space being laid out in squares, upon a peculiar plan of his own. It was only in operation for a few years. Then Courland Nursery has gone, which was near the L.C.D. station, Wandsworth Road, and did a good trade in shrubs, specially evergreens. Trinity Road, near the common, exhibits the nursery of Mr. R. Neal, with a display of trees and shrubs suited to the London air. Towards Southfields, which is an outlying part of Wandsworth, we still find a nursery, that of Mr. Gold.

About the middle of this century, gardeners on a visit to the metropolis often sought an opportunity to see the houses and garden

of Buntwood Grange, Wandsworth, which were then under the care of Mr. Hoskins. The Gothic conservatory attached to the residence was deemed noteworthy enough to be figured in a new "Handbook of London." It was of a somewhat novel design, rather ornate, and so contrived as to show to advantage a variety of plants of moderate size without any overcrowding. This was the work of Messrs. Trollope of London; but for the forcing houses and the general plan of the grounds, Messrs. Rolleston of Tooting were responsible. A splendid show of summer flowers was made along the chief walk. On West Hill, towards Putney, were the gardens of Mrs. Rucker, known in 1851 as an enthusiastic grower of Orchids, and an admirer of Heaths, of which he had a large collection. His lawns displayed fine clumps of Azaleas and Rhododendrons, while they were surrounded by Pines, Araucarias, and Deodars, amongst other trees of deciduous foliage. Visitors were attracted by a rosery, in which Hybrid Perpetuals figured principally, and did very well in the atmosphere as it was then.

Battersea for many years had a large extent of garden ground. Some writers of last century refer to it in connection with Asparagus. The locality suited this vegetable, and it was doubtless freely grown here at one time, but not in my recollection. Loudon speaks of Battersea as a home for Cabbages, and certainly Brassicas of various kinds were conspicuous. Beans had a large space allotted to them during the period I knew these gardens; Peas were very little grown; Lettuces, Beet, Horseradish, Rhubarb were common; Potatoes, too, of course; but not much was done in the production of Cucumbers, Marrows, or Melons. These market gardens were situated between the well-known Battersea Fields and the upland, on ground that was inclined to be moist; if neglected marsh plants appeared upon it, and I can quite believe that in the olden time the Thames at some seasons flowed over Battersea to the foot of the hills. Still, there is nothing in the jocular supposition that the name has allusion to such local floods. Evidently at first it was Patrick's Eye, variously spelt; perhaps commemorating St. Patrick or Peter, the place being ecclesiastical property. The shrinkage of Battersea market gardens went on steadily from about 1860, till but little remained in 1885. It was comical to see that occasionally the gardener fled some time before the builder arrived, leaving his plants to produce a self-sown crop amongst weeds and grass. That the Battersea gardeners did some forcing appears from two lines in a satirical poem published early in the century, when the public mind was much taken up with balloon schemes:—

"Gardeners in shoals from Battersea shall run,
To raise their kindlier hotbeds in the sun."

Time is thinning the number of those who recollect old Battersea Fields, where the boys fished in its streamlets and ponds, or climbed its Willows, while older folks thought the fields afforded a pleasant stroll, only it was needful to look out for stray shots from the pigeon shooters. But the ground was only a waste, and it has been transformed into one of the best London parks, affording, indeed, displays of vegetable life and beauty which are not to be had in parks of older date, situate in more pretentious localities. Like several of the other parks that are under the London County Council, this park has its zoological characteristics; besides birds and fish, we have deer introduced, and lately an attempt has been made to start a colony of squirrels. This park of 200 acres is a conspicuous example of horticultural skill and progress, the alpine and sub-tropical gardens particularly.

The Government were fortunate enough to secure this large space for the sum of £11,000, and £6000 was expended on the original laying out. Purchased in 1851, it was not till 1858 the park could be opened to the public, some alterations needing considerable time, especially as the low ground of a great portion had to be elevated, much of the rockwork being manufactured on the spot. Many of the masses bear close resemblance to natural rocks, as the water trickles down their rugged sides into the lake below, while here and there in gaps or knolls flourish Ferns, Irish Yews, Cypressess, and Austrian Pines, with other evergreens. Various climbers cover part of the rocks, supported by wires, and at the base are creepers or low-growing species. Again, in the alpine garden we have miniature hills, where peaks are made to look wintry by *Antennaria tomentosa*, and the sides are bedecked with the dwarf plants and Conifers characteristic of alpine regions. Most years greenhouse succulents such as Cacti and Aloes have also been added during summer.

Probably the subtropical garden is, in the eyes of most, the gem of the park, planned by Mr. John Gibson, who had the great advantage of having seen the plants here placed growing in their native lands. The Palms, *Dracenas*, *Aralias*, Tree Ferns, and hundreds of other exotics, some of them rare, produce a delightful effect by their shapes and rich foliage, intermingled as they are with brilliant flowers. Another speciality of Battersea Park is the array of ornamental Grasses, those of an aquatic or semi-aquatic habit showing up well in the vicinity of the lake; others have been grouped in hollows. Then the Fern glades beneath Ivy-clad banks are delightfully shady just now, and flourish to admiration.—J. R. & C.

HELICONIA SANDERI.

THE enormous demand that exists at the present time for foliage plants suitable for decorative purposes renders the introduction of new ones particularly welcome provided the novelties have the recommendation of general excellence. For this reason, *Heliconia Sanderi* (fig. 27), which was exhibited at the Temple Show in May by Messrs. F. Sander & Co., St. Albans, attracted a considerable amount of attention. As may be seen in the woodcut, the leaves partake of the character of *H. illustris*, but they are totally distinct from that handsome plant. The splendid leaves, in which of course the value of the plant lies, are tricoloured, being deep green, rich yellow, and almost pure white, the proportions of each varying very considerably. The Floral Committee of the Royal Horticultural Society on the occasion named recommended a first-class certificate for this plant, which adds one more to Messrs. Sander's long list of useful introductions.

Society this year was worthily bestowed upon the fine example exhibited by Messrs. Jackman & Son. The flowers were exceptionally fine and beautiful. With "*D. Deal*," *A. sylvestris* is, I believe, almost a weed; while with the writer it thrives very indifferently.

SAPONARIA OCYMOIDES ALBA.

Novelties among the Soapworts are not frequently seen. We have, as yet, nothing among the dwarf or trailing species which can compare in value for the rock garden with *S. ocyroides* and its varieties *splendens* and *splendissima*. The two last-named are perhaps, the finest of all the Basil-leaved Soapworts. The advent of the new variety, named *S. ocyroides alba*, is worth noting as giving us a break in a direction opposite to that in which seedling raisers have been working. Their aim has been to get varieties of brighter colouring. *S. ocyroides alba* is not pure white, but it nearly approaches that colour—if one may keep to that useful word in speaking of white; there is a tinge of pink about it. This new plant made its first appearance in public at the last



FIG. 27.—HELICONIA SANDERI.

NOTES ON ALPINE FLOWERS.

PENTSTEMON GLAUCUS.

IN writing these notes one's intention is not merely to direct attention to flowers of worth, but also to remark upon others it may be desirable to avoid planting. Such a plant is *Pentstemon glaucus*, which is neat enough in its habit, and has proved fairly hardy in my garden. What is disappointing is the dull colouring of the flowers. These are a dull purple, and can hardly be called either effective or pleasing. The height of *P. glaucus* is described in works of reference as from 9 to 12 inches in height; but with the writer it is even dwarfer than the former measurement. It is not a flower that one can recommend to the alpine grower.

ANEMONE SYLVESTRIS FL. PL.

If I mistake not this double form of this Windflower has already been mentioned in these notes. When grown in gardens where it is at home it is likely, however, to prove an even more appreciated plant than one expected. The award of merit granted to it by the Royal Horticultural

Temple Show of the Royal Horticultural Society, when a panful was exhibited by Messrs. Backhouse & Son of York. We are indebted to the keen eye of Mr. James Backhouse of that firm for having detected this plant while travelling in the Pyrenees. The solitary plant was sent home, and has become the parent of the stock now in the hands of the firm. That it will be useful in the alpine garden admits of little doubt, and we may hope, as well, to secure from it a variety of greater purity.

ARMERIA SETACEA.

This beautiful little dwarf Thrift is rather variable in its forms, and those who desire to grow it ought to try to secure a variety of dwarf habit, and with as deep colouring as possible. I recently saw a good form which was much superior to that I now have. Those who do not know this Thrift will have an idea of what it is like when they are told that it is a miniature of our common Sea Pink or Thrift (*A. maritima*), with small densely tufted foliage. A beautiful little plant such as this may well be grown.—ALPINUS.

(To be continued.)

TURPENTINE FOR THE TURNIP FLEA BEETLE.

I HAVE tried the effect of turpentine on Turnip seed for the prevention of this pest, and have given it up as a failure. "S. D." page 72, seems to imply that it has an injurious effect by weakening the energy of the germination of the seed. Some time ago I put several seeds in a tin and poured sufficient turpentine in to cover the seeds entirely, and I left them in soak for eighteen hours. I then poured the turpentine off and sowed the seeds. At the same time I sowed two rows with seeds which had not been so treated.

All the seedlings came up on the same day, and no difference could be seen in the strength of the plants, either then or since. Unfortunately, nearly all one end of the piece was cleared by the greenfinches, which seemed to prefer those which had been soaked with turpentine. I purposely allowed them to take half the piece before stopping them, to see if they would leave off in disgust, but I was obliged to protect them then to watch the effect it had on the flea. These commenced the attack the second day after the Turnips came through the soil, and bestowed their favours on all alike. I cannot see any difference between those soaked or not soaked; the trial was made by the side of some which were about half grown.—L. J.

GROWING HOVEAS.

ALL the Hoveas are very beautiful, but somewhat difficult to get into a sturdy, bushy, compact habit of growth. The flowers are either purple or a deep purple blue, and are produced most profusely on the young well-ripened wood of the previous season, a fact which furnishes the key to their successful cultivation. Another recommendation is that they all flower freely in the early spring and summer months when flowers are comparatively scarce in other departments.

Propagation may be effected by seeds. Most Hoveas will ripen their seeds, but very few should be allowed to remain, and only those from the first-formed flowers, for two reasons: the first is to prevent the plant being exhausted of its strength; the second is to enable us to prune back the plant as early as possible after the beauty of the flowering season is gone. The seeds being obtained as early in the summer as possible may be dried and sown as soon as ripe, or they can be preserved in a dry cool place until the following March. In both cases they will be better for being sown in sandy peat, and then plunged in a sweet hotbed, giving more coolness and air as soon as vegetation has taken place. If not sown until the following spring steeping the seeds in warm water of 130° for twenty-four hours will cause them to vegetate sooner. As soon as the plants are a couple of inches in height they must be pricked off round the sides of a pot in sandy peat with a little leaf mould, and kept close for a short time in a mild hotbed, or if in the heat of summer merely a close frame until growth has fairly commenced.

Cuttings should be from the point of young shoots getting a little firm in April and May, or, better still, some stubby side shoots about 2 or 3 inches in length cut clean off close to the stem, or so near as not to injure it. Cut a cross at the base with a sharp knife, and remove merely the leaves there and one or two above—success greatly consisting in retaining as many leaves as possible, and then taking care that these leaves should act as absorbers quite as much as perspirers by keeping them in a close atmosphere, and in as much, but not more light than they can bear with impunity. For this purpose the cuttings when made should be inserted in white sand over sandy peat well drained; in fact in all these operations more than three parts should always consist of drainage. If the cuttings are placed round a pot inverted in the inside of a larger one success will be certain, and less trouble will be occasioned for drainage than by any other mode.

When settled and firmed by watering, and allowed to get dry in the shade, clean conical-shaped bell-glasses should be fixed in the sand around the cuttings, and then the plants ought to stand in a close frame or pit, where the heat will only be a very few degrees higher than what the plant enjoyed before the cuttings were removed. If during the day the heat from the confined air should become too high, give a little air at the back of the pit or frame. From inattention to this I have known valuable cuttings so attenuated that healthy plants from them afterwards could hardly be expected without great future care and trouble. A moist close atmosphere is of the first importance in rooting cuttings in general, shading from bright sunlight is another indispensable; but both may easily be carried to excess, especially if the temperature is allowed to rise to a great height.

Where quick rooting is an object it is much better to remove the cutting pots after having stood three or four weeks in the cold frame to a mild bottom heat, say from 75° to 85°; but even here the top temperature should seldom average more than 50° by night and 75° by day, or in summer should seldom be much above what it is in the open air. If conical glasses are used wiping them will be more a matter of amusement than necessity, and lifting them for watering purposes will be seldom required; tilting up one side at night, and increasing the space by degrees, will be of more importance, taking care, however, to shut down close in the morning before the sun strikes upon them. By placing cuttings at a safe distance from the glass shading might be altogether dispensed with—a matter of importance to amateur operators, who must sometimes depend for assistance in their absence to the not most willing hands.

If the plants are rooted early they should be pricked out round the sides, say four of them in a 4 or 5-inch pot, or singly, if strong, into

3-inch pots. For keeping over the winter it is generally the safest and easiest mode to prick out such small plants round the sides of medium-sized pots, as the moisture and temperature of soil are more equable than when each little plant has a pot to itself, while the trouble of attendance is greatly abridged. If the cuttings are not ready to be potted or pricked off before the middle of September, provided there is sandy peat below the silver sand, they will be kept safer in the cutting pots all the winter. In either of these cases the plants should be kept on a shelf near the glass, where they can obtain the highest medium temperature of the greenhouse in winter and abundance of air whenever the external air is not stormy, not loaded with moisture or below 38° or 40°. In either of these cases the amount of fresh air (unless heated before entrance into the house) must be limited.—R. F.

(To be continued.)

A VISIT TO KINVER.

WEBBS of Wordsley and Kinver are household words to those who are interested in both garden and farm. Perseverance and integrity form the watchword of this celebrated firm, and it has been by its observance that the colossal business has been built up.

What farmer has not grown Webbs' Barleys, Wheats, or Oats—if not directly, indirectly? For the finest malting Barleys are Webbs', also Wheat and Oats that are to be found throughout the world; also of their celebrated stocks of Mangolds, Swedes, and Turnips. Anyone seeing the care which is taken in the selection and growth of any of these stocks need not have misgivings on this point. At Kinver trials are carefully carried out, and selections are continually being made. The farmer who relies on his own cereals year after year is soon left behind in the race, as a change of seed, like Potatoes, often makes all the difference between success or failure.

It is only by the aid of such great firms as Webbs' that pace can be kept with the times to aid the grower in fighting foreign competition. If only one ear of Wheat, Barley, or Oats, or a single root of Mangold, Turnip, or Swede shows any signs of improvement over the old stock, attention is turned to it. It is a matter of time fixing a superior strain, but any firm jealous of its reputation does not mind this. To give an idea of the magnitude of Messrs. Webbs' business, it may be said that 20,000 acres are required to produce sufficient seed to supply their customers, and the farms are scattered throughout the best seed-growing districts or counties of England.

To see the trial plots one would think that the British harvest would be much above the average, so heavy are the crops. Yet these have not received special treatment beyond what is requisite in producing a full yield. It is not the seeds alone that account for this, but the manures of which the firm makes a speciality, and trials of these suitable for the various crops and soils are carefully carried out. In one trial there were forty varieties of Mangolds, and forty-one of Swedes, and to one variety of Swedes there were nine different selections of manure. This, then, will give an idea of the labour and expense that is incurred in order to insure customers having what is most suited to their needs.

CEREALS.

Webbs' cereals are renowned throughout the world, and it is only sufficient to add the names of Webbs' Chevalier, Burton Malting, and Universal Barleys; Prolific Black Tartarian, Newmarket, and New Hardy Winter Black Oats; White Queen, New Standard Red, Windsor Forest, Challenge, and Kinver Giant Wheats, to provide a guarantee of excellence in every respect. Enormous stocks are grown to meet the great and growing demand of their customers.

No matter how good are Webbs' Chevalier and Malting Barleys, there is one now under trial which is considered even better. It is intermediate between the two, and great results are expected of it.

GARDEN CROPS.

It must not be thought that agricultural seeds claim sole attention because they are given precedence in these notes. Precisely the same care is taken in the selection, cross-breeding, and growth of all kinds of vegetable and flower seeds. Who has not heard of or grown Webbs' Emperor Cabbage? Quite two acres of selected heads were noted, specially grown for the production of seed, and there was hardly a rogue to be seen. If one is observed showing the least deviation from the type it is destroyed; 20,000 packets of seeds of this Cabbage were sold last season. It is of compact growth, hearts in early, is very hardy, and of excellent quality. Lettuce during this tropical weather naturally claims attention. Criterion, Summerhill, and Model are all Wordsley productions, and they were one and all of perfect shape and solidity. Along the Celery ridges were fine examples of Webbs' Exhibition and Monstrous White Cos. A remarkable point about the Lettuce was, that although growing on a dry and elevated ridge, they were in the most luxuriant state.

Onions made an extensive trial. Webbs' Masterpiece and Reliance were just the type for exhibition or kitchen use. There is a notion abroad that large Onions are only adapted for exhibition, but having to cater for one of the largest establishments in Britain, I can say that large bulbs for special dishes are much called for. They are milder in flavour than those of smaller growth, and are excellent for cooking whole. Improved Banbury is a splendid Onion for growing for main crop, being a capital keeper and cropper. Market Favourite is one of the finest early Carrots

with which I am acquainted; in growth it is intermediate between Suttons' Gem and Intermediate, a good recommendation, as it combines the earliness of the former with a larger growth of the latter.

PEAS AND BEANS.

Alongside of Messrs. Webb's new Peas were rows of all the best varieties in commerce. It is only by such means that differences can be noted, and it is this that makes a great seed firm's trials beneficial to the gardening public. Pride of place must be given to Webb's Senator, as it is a grand variety, and is looked upon as the coming market Pea. It is a cross between Prince of Wales and Culverwell's Giant Marrow, and the stock for several years has been carefully selected. The haulm was literally hung with pods, and market growers should make a note of it. Senator is of medium growth, being from 30 inches to 3 feet in height, consequently tall sticks are not needed. Stourbridge Marrow was well to the fore, and more than maintains its reputation. Talianman is a grand Pea for late use. Little Marvel was also noted as an excellent dwarf early Pea of the American Wonder type, the pods being large and well filled, and the quality good. Promotion too was doing splendidly, this being a cross between Paragon and Telephone.

The Kinver Broad Beans are well known, and made a large trial. Kinver Mammoth was very noticeable; this is an immense favourite with exhibitors. For garden and market use there was nothing superior to Webb's Selected Longpod. Amongst Runner Beans, Eclipse was by far the best, and fortunately it is good alike for exhibition or general use. Trials were also noted of French Beans. One variety in particular was quite distinct from any other Dwarf Bean in commerce, the central growth was surmounted with a panicle of bloom. This will be carefully tried. At present it is not named.

Trials of selections of Borecole were only just planted, but evidences of intelligent care were clearly perceptible, and the same can be said of Celery. Pink Perfection was growing strongly in shallow trenches, and will surely become one of the most noteworthy varieties for exhibition.

TOMATOES.

Webb's Tomatoes have been prominently before the public for years. Regina is likely to enhance the firm's reputation, as it is a fine variety for either indoor or outdoor culture. The British public has become so exacting that Messrs. Webb & Sons are well aware that only a variety of super-excellence will satisfy them. A Tomato must be of handsome shape, bright red in colour, firm in the flesh with few seeds, also early and productive in growth, and these are the characteristics of Regina.

POTATOES.

The Wordale Potatoes are carefully tested by extensive trials. Gold-finder is maintaining its early reputation, and other varieties likely to attain the same prominence are Industry, Motor, and Record. Selection again amongst Potatoes is what this Worcestershire firm rigidly adheres to, knowing so well that it is only by this the popular tuber can be kept perfect.

ANNUALS.

Good stocks of all the most popular annuals are grown. At Wordale the Gloxinias were just passing out of bloom, and attention was being bestowed on the production of seed. That gold medals have been awarded to this strain is simple evidence of its excellence, and visitors to the Temple, Wolverhampton, and other big shows will remember the extensive groups. Calceolarias, Cinerarias, Begonias, and the now popular Cannas also receive special care.

The hardier annuals are grown at Kinver. Very interesting was the extensive trial of Sweet Peas. It is not generally known how excellent are these for sowing in November for the production of early bloom. Treated thus there are huge hedges at Kinver, with spring sown for succession flowering. Special colours, rather than a multiplicity of names, is the aim of the firm. Names become bewildering, whilst special colours do not. Seedling Carnations made a fine show, and Webb's Imperial has already established itself. A bed of seedling Carnations should be in every garden; but as it takes two years from the time of sowing the seeds till flowering, it is necessary to sow annually so as to maintain a succession.

Candytuft Pink Pearl is another of the Kinver novelties, so also is Tropaeolum Meteor. The ever popular Sweet William was much improved. Asters were not yet in bloom, but extensive trials were planted. Stocks were superb: Celestial, sky blue; Snowdrift, pure white; and Sovereign, primrose, were just commencing to unfold their spikes. The Dianthus (or Indian Pink) is fast becoming a popular plant; these are splendid for bedding if the seeds are sown early.

To enumerate all the strains improved by Messrs. Webb & Sons would be to call attention to all the most popular vegetables and flowers in cultivation, and as these notes have drawn out longer than was intended, no more than a passing reference can be given, and we must, for a time at any rate, bid adieu to the Kinver Seed Trial Grounds. —A NOBLEMAN'S GARDENER.

HEMEROCALLIS DISTICHA OR FULVA.—A capital border plant for the month of July is this with its bronzy orange coloured blossoms, which have a pleasing effect when seen in a mass. I recently saw fully fifty clumps each a yard in diameter growing in one border, and the effect of such a number can easily be imagined by those who know the plant.—M. H.

LILIUM HENRYI.

ABOUT a dozen years ago this beautiful species was introduced into English gardens through Dr. Henry from Western China, and in that short time it has contrived to find for itself a foremost place in a genus composed almost entirely of beautiful garden plants. To obtain such a position in so short a period it would naturally be supposed that it has merits not shared in common with many other species; and that is so, for, in addition to being a most showy plant, carrying a large number of good-sized flowers on tall, graceful stems, it has a splendid constitution, thriving well and making fine, sound, disease resisting bulbs in a variety of soils and positions.

At Kew several large masses of it are to be seen. Near the Palm house it is used, with other species, as a dot plant in beds of evergreen shrubs, and in this case a very pretty picture is made by the tall shoots, 8 or 9 feet high, surmounted by pretty reflexed orange blossoms, contrasted with the dark foliage of the shrubs beneath. Originally several bulbs were grown in the centre portion of the winter garden, and these have on several occasions sent up growths 15 feet high bearing immense heads of flowers. These bulbs were moved early this year to the new Himalayan house, and are now making a fine display in that place. Though hardly so strong as last year, several bulbs have made two or more stems, each carrying over twenty flowers, and in one case upwards of thirty. They are planted thinly among Rhododendrons, and show to advantage against the greenery around.

These bulbs are growing in a mixture of peat and loam, but for several years a number of bulbs in a bed outside composed of heavy loam did remarkably well. When first planted in this bed the bulbs were very small, but when lifted at the end of four years several weighed three-quarters of a pound. From this it will be seen that L. Henryi has many advantages and is worthy of extended cultivation by all lovers of the genus.—W. D.

FILBERT CULTURE.

FILBERTS will bear any amount of severe weather when in a dormant state, neither are the plants expensive, and they will grow in almost any sort of soil so long as it is not a stagnant one; but like most other plants they have their favourite spots, and must be judiciously managed in some particular points, to which I will presently allude. Some of the most successful Filbert grounds in Kent are situated on a range of hills running east and west, commanding miles of uninterrupted view of the Weald of Kent and Sussex, where the soil is a good sound loam, rather shallow, but resting on a foundation of marl or sandstone. These grounds produce the famous Filberts and Cob Nuts, so much in request, and their position indicates that the Filbert likes a high and dry situation, not, perhaps, so much from the advantage of soil as for the favourable elements such positions afford for the natural distribution of pollen at flowering time, which happens in their case to be very early in the year; therefore, if a plantation of Filberts is to be attached to a garden for home use choose the highest and driest spot consistent with other surroundings, and if the land has been previously cultivated not much other preparation will be needed beyond breaking up and then working down again before planting.

Stations for the plants should be set out; 10 feet from tree to tree and row to row is a good distance for a plantation, but if only a single row 8 feet will answer well. In selecting the trees those inclined to a branching habit are to be preferred, and with a clear stem of sufficient length to allow a foot above ground after planting in order to check the production of suckers. Mix a little decayed manure in the soil at planting as an assistant to a good start. The trees will need treading in firmly. About a month after planting the first pruning can be done, which may be a heading down of all the principal shoots, say one-third of their length, and the spray wood likewise shortened. The season following little will be needed beyond keeping the ground clean and removing any ill placed shoots, but the next season's pruning will have to be with a view to the shape of the tree. This may be a matter of taste with some, but I have found the cup shape to answer all purposes; consequently the centre of the tree should be kept clear of wood, and the best outside shoots trained at equal distances. From five to eight will be ample to form a good tree, and will allow sunlight and air to freely circulate among the branches, making sure of this as one of the great points in Filbert culture.

During winter when the leaves are off some addition should be made to the soil, not necessarily strong manure, but decayed vegetable refuse, or in fact anything that will improve it. After this the trees will be getting well in hand, and pruning from time to time will be the principal work. This operation must not take place till blooming time, which is generally about February, when both male and female flowers will be out at one time. First cut out too strong or ill-placed growths, then thin the centre of the tree; afterwards examine the whole tree and thin out some and shorten others of the fine or spray growth in a regular manner, paying careful attention to the wood bearing female flowers, and, if possible, leave sufficient male blooms or catkins on every tree to fertilise them. In some seasons, however, there is a difficulty in this through the scarcity of catkins, while in some plantations one part will have plenty and the other none, therefore means must be taken to equally distribute these by tying a few sprigs of them in each tree when they are about to burst. I used to know a Filbert orchard in Kent that scarcely ever produced sufficient male flowers; this was thought to arise from the plantation being surrounded by high Walnut trees, and therefore too

much confined; but we usually had a fair crop nevertheless, because for five seasons in succession I was sent round the hedgerows of the Hop gardens to collect the branches of catkins from the common Hazel Nut, and tie some on each tree for the wind to circulate the pollen. It was always noticed, however, that the best crop and finest Nuts were on the outside trees, the interior of the orchard having weaker trees of more straggling growth. This shows the partiality of the Filbert to light and air, so that I have come to the conclusion if I ever required to grow Filberts I should prefer planting a single row of trees round a fruit orchard, or a single row in any open situation; the trees might then be put closer together, say 8 feet apart, and if trained as stated above, and about 6 feet high, they would prove both ornamental and useful.—T. R.

GOOSEBERRY TELEGRAPH.

THIS is one of the finest green Gooseberries in cultivation, and very few in any class can beat it either for appearance or flavour. It must be well grown, and the best way to grow it is on a trellis of some kind, the berries then getting the advantage of air and light all round, and swelling beautifully. The skin of this variety is not so thick as that of some others, consequently it is a little apt to split in wet seasons, but this is its only fault, if fault it can be called, when of course it means a great addition to the weight of the eatable portion of the fruit.

It is strange that Gooseberry culture on espaliers or trellises of various kinds does not receive more attention from cultivators generally, and especially from cottagers. When lecturing to villages in various parts of this country I have on several occasions mentioned this method, and no one seems to be acquainted with it or with the excellent results attained thereby, but this is not the case in all parts of the country I know. Still, it is not sufficiently known that splendid fruit can be grown in a very small space by this simple means.—H. R. R.

PARK VALE, EDGBASTON.

THE immediate suburbs of Birmingham, so far as their atmospheric attributes are concerned, are not considered the best for gardening generally. But the Edgbaston district appears to enjoy a certain degree of immunity from the pernicious effects of the impurities from the surrounding manufactories, consequently it is not altogether surprising that good gardening is to be found there. Birmingham has long been known for high class plant growing especially, and still continues to hold its own. In consonance with the foregoing remarks, the gardening at Park Vale, on the Bristol Road leading to Selly Oak, the pleasant residence of one of Birmingham's opulent brewers—Charles Stowell, Esq.—ranks not among the last, as testified by a recent visit.

The gardens, though extensive, are very interesting, and are kept in excellent order by the intelligent and courteous head gardener, Mr. Westbury. One of the more prominent features observed on the occasion of my visit were two recently constructed span-roofed houses, about 60 feet each in length and 12 feet wide, built on the most approved principles, and with an ample hot water service. Entering the first structure, one was confronted by an array of Gloxinias in splendid form, many of them being Messrs. Sutton & Sons' best named varieties and the remainder seedlings, arranged on both sides of the path, on raised beds, three lines on each side, and from the description it will readily be imagined what a grand display was thus presented. The plants were as remarkable for their fine foliage as for the flowers.

In the adjacent house an equally interesting and fine collection of tuberous rooted Begonias was to be observed, and among which also were numerous named varieties, principally of Messrs. Laing & Sons' strain. These two were arranged similarly to the Gloxinias, and the edging of variegated leaved trailing Ground Ivy (*Nepeta hederacea variegata*), hanging down the wall on each side of the path, gave an appropriate finish to the whole.

Entering another span-roofed structure close by, I saw on both sides thriving plants of Tea Roses planted on well prepared beds, while placed along the walls of the beds were Hybrid Perpetual and other kinds of Roses in pots; not a trace of mildew to be seen. In another structure were growing in 10-inch pots as fine a set of Tomato plants as one could possibly desire, and laden with fruit in various stages of ripening. In a stove was a large collection of Crotons in small pots for room decorative purposes, and supplemented with a numerous variety of other decorative plants.

In the vinery there was a very good crop of Grapes stoning, the bunches being of a useful size. In the adjoining Peach house the trees appeared to be in very good health, but the crop scanty as a whole, owing chiefly to bud dropping, which Mr. Westbury attributes to an imperfect ripening of the buds, owing to the roots having descended into the naturally over-damp soil, below the made up borders. The flower, and kitchen, and fruit gardens also testify to the ability and perseverance of the gardener in chief, to whom the best thanks for his courtesies are due from the writer.—W. G.

"FAMILIAR WILD FLOWERS."—This work is now rapidly approaching completion. Parts 18 and 19 include plates of Sowthistle, Leopard's Bane, Herb Robert, Woody Nightshade, Corn Cockle, Heartsease or Pansy, Shining Crane's Bill and Ragged Robin, Snowdrop and Snowflake, Meadow Vetchling, Celandine, Ground Ivy, Prickly Headed Poppy, Heather, Dove's Foot, Crane's Bill, Centaury, Orpine, Sweet Briar, Larger Knapweed, Lesser Red Rattle, and Sea Lavender.

COREOPSIS LANCEOLATA.

THE flowers sent by "G. H. F." represent well grown examples of *Coreopsis lanceolata* (fig. 28). Few plants exhibited in collections of hardy flowers are more worthy of attention than the lance-leaved *Coreopsis*. The general appearance of the flowers is highly pleasing, they being of a clear yellow hue and of graceful outline. There is not a brighter flower in the border at midsummer than this, and it is very useful to cut from. I have grown it to perfection in a London garden, the soil of which was quite of an ordinary character, and I have no doubt that any of your amateur readers who may find a place for it will find it succeed without giving them much trouble.—W. WHITE.

COREOPSIS LANCEOLATA ELDORADO.

THIS is a valuable addition to our hardy plants. The individual flowers measure 4 inches across, are freely produced on long stiff stems, and are of a rich yellow colour. It would be difficult to imagine a more useful border plant. For summer use in flower beds this plant should be of much service.—B. W.

SHOWS.

THE MIDLAND CARNATION.—AUGUST 2ND AND 3RD.

FORTUNATELY this Show was held a week earlier than the one last year, otherwise the worst fears of the exhibitors, owing to the recent parching tropical-like heat of the weather, would have been realised. As it was there was a considerable diminution in the total number of exhibits as compared with that of last year. There were, however, many blooms possessed of high quality in the various classes. As will be observed by the report there was a marked absence of Southern exhibits, attributable chiefly to the abnormal earliness of the flowering season. The heat prevailing, especially on the opening day, multiplied the attendance of the visitors, who were enabled to stroll and lounge at leisure about the beautiful grounds of the Edgbaston Botanical Gardens, and listen to the strains of the string band stationed on the lawn in front of the exhibition hall.

The midland counties challenge silver cup, value 12 guineas, to be competed for by the trade growers, was (last year's holders being Messrs. Thomson & Co., Birmingham) won by Mr. Robert Sydenham, and Mr. R. Chatwin Cartwright secured the Sydenham amateurs' challenge silver cup (the holder of this cup last year was Mr. Martin R. Smith). A silver medal was adjudged to Mr. R. C. Cartwright for points, to count at the same rate as for the challenge cup; and a bronze medal to Mr. R. Sydenham as the second prize.

In the class for twelve self Carnations, dissimilar, there was a keen competition, and Mr. A. W. Jones, Handsworth, Birmingham, won the first prize with a very good stand of Isinglass, Mrs. Eric Hambro, Amy Robart, Britannia (excellent), Her Grace (fine), Sadek, Seagull, Lady Hindlip (fine), Germania, Dick Donovan, Mr. Mac-Rae, and Asphodel. The second prize went to Mr. R. Sydenham with Diane (fine), Exile, Dick Donovan, Endymion, The Sirdar, Roseleigh Gem, Mrs. Colby Sharpin, Germania, Queen of Scots, Mephisto, Mrs. E. Hambro, and Lady Hindlip; the third, fourth, and fifth prizes being awarded in the following order to Messrs. Tom Lord, Todmorden; Thomson & Son; and A. R. Brown, Handsworth.

For six self Carnations, the first prize was worthily won by Mr. W. Bellamy, Penkridge (a comparatively new exhibitor), with Endymion, Mrs. E. Hambro, Mrs. Colby Sharpin, Sadek, Britannia and Her Grace; and the second, third, and fourth prizes fell to Messrs. Cartwright (with fine examples of Isinglass, Germania, Britannia, Her Grace, Dorothy, and Verona), Albert Chatwin, Edgbaston; C. F. Thurstan, Wolverhampton, and D. Walker, Kilmarnock.

For twelve yellow ground Picotees, dissimilar, Mr. A. Jones was again to the fore with Voltaire (superb) Golden Eagle, Dervish, The Gift (fine), May Queen, Wanderer, a seedling, Mohican, Stanley Wrightson (excellent), Hygeia, Mr. Nigel, and Eldorado. The second award went to Messrs. Thomson & Son with fine blooms of Voltaire, May Queen, Wanderer, The Gift, Empress Eugénie, Golden Eagle, Mrs. Tremayne, Mohican, and four seedlings. The third and fourth prizes were secured by Messrs. R. Sydenham and Herbert Smith respectively.

For six yellow ground Picotees Mr. W. Bellamy was to the front with Voltaire, The Gift, Mrs. Douglas, May Queen, Eldorado, and Ladas; while Messrs. Chatwin, Cartwright, Twist, Thurstan, and I. W. Whitam, Hebdon Bridge, Sheffield, ranked in the order named.

For twelve Fancy Carnations Mr. A. W. Jones was once again to the front with fine blooms of Perseus, Monarch (2), Lady C. Walsh, Czarina (2), Wanderer, Broderick, Cardinal Wolsey, Geo. Cruickshank, Zingari, and Miss Mackenzie. The three following prizes fell respectively to Messrs. Thomson & Son, A. R. Brown, and R. Sydenham. For six blooms the first prize was adjudged to Mr. G. F. Spittle, Edgbaston, with Miss Mackenzie, Cardinal Wolsey, Monarch, Broderick, Zingari, and The Day; while Messrs. A. Chatwin, Cartwright, W. Bellamy, H. G. Owen, Kings Heath, and Pemberton & Son followed.

For twelve white ground Picotees Mr. R. Sydenham took first honours with a beautiful board, comprising Flossie, Ganymede, Pride of Leyton, Beattie, Father, Madame Richter, Little Phil, Amy Robart, Isabel Lakin, Mrs. Payne, Mrs. Oppenshaw, and Favourite. Messrs. Thomson & Son

followed closely with Brunette, Nellie, Isabel Lakin, Amy Robsart, Little Phil, Pride of Leyton, Clio, Mrs. Sharpe, and others; the remaining prizes falling to Messrs. Tom Lord, Pemberton & Son, and Herbert Smith, all with creditable blooms. For six blooms Mr. Cartwright was triumphant with Mrs. Beswick, Muriel, Fortrose, Ganymede, Thos. William, and Mrs. Oppenshaw. The second prize went to Mr. F. W. Goodfellow, Walsall, with Little Phil, Mrs. Oppenshaw, Thos. William, Mrs. Gorton, Mrs. Payne, and Esther. The four remaining prizes were won by Messrs. C. F. Thurstan, C. Head, W. Bellamy, and W. H. Twist.

For twelve flake or bizarre Carnations Mr. R. Sydenham took first honours with a smart collection, comprising Rob Roy, Geo. Melville, Master Fred, Gordon Lewis, J. P. Sharp, Guardsman, Robert Houlgrave, Thalia, Merton, Ruda, and two seedlings. Mr. Tom Lord was second with Admiral Curzon, Gordon Lewis, Lady Mary Currie, J. D. Hextall, J. S. Hedderly, Sportsman, Arline, Robert Houlgrave, Dan Godfrey, Mr. Tom Lord, and Mr. W. Skirving. Messrs. Thomson & Son and Mr. Pemberton were third and fourth. For six blooms Mr. R. C. Cartwright took the lead with excellent examples of Gordon Lewis, Robert Houlgrave, J. S. Hedderly, Geo. Melville, Sportsman, and Sport. The second prize was secured by Mr. D. Walker with clean examples of Duke of York, Master Fred, Sarah Payne, Ivanhoe, Robert Houlgrave, and Mr. Tom Lord. Mr. C. F. Thurstan and Mr. F. W. Goodfellow were third and fourth.

In the novices' class for six Carnations or Picotees, dissimilar, Mr. W. H. Parton, jun., Kings Heath, was first; Mr. J. Richmond, Kilmarnock, second; Mr. E. C. Rossiter, Langley Green, third; and Mr. T. A. J. Harper, Aston, fourth.

The undressed and border Carnations and Picotees formed most interesting stands, and are worthy of imitation, and foregoing the names of the flowers we will merely enumerate the prizetakers in their order. For twelve selfs, dissimilar, Messrs. A. W. Jones, Tom Lord, A. R. Brown, Thomson & Son, and R. Sydenham were the most successful. For six selfs, Messrs. W. Bellamy, R. C. Cartwright, D. Walker, and C. F. Thurstan were the chief contestants. For twelve Fancies or yellow grounds Mr. A. W. Jones, Thomson & Son, R. Sydenham, and A. R. Brown showed splendidly, as in the class for six blooms did Messrs. Bellamy, Cartwright, Twist, and Thurstan. For twelve white-ground Picotees Messrs. R. Sydenham, Thomson & Son, and Pemberton & Son scored, while for six blooms Messrs. Thurstan, Cartwright, Bellamy, and Brown were the winners.

An equally interesting class was that for "blooms staged in threes" in vases or bottles, for six varieties of selfs, in which Messrs. Thomson and Son, R. Sydenham, Artindale & Son, Sheffield, and Tom Lord staged best. For six varieties yellow ground Picotees, Messrs. A. W. Jones, Thomson & Son, Bellamy, and R. Sydenham were successful. For six varieties Fancies, Messrs. Cartwright, Thomson & Son, R. Sydenham, and Artindale & Son showed strongly; while for six varieties white ground Picotees, Messrs. R. Sydenham, Thomson & Son, Tom Lord, and Pemberton & Son staged creditably. For six bizarres or flakes Messrs. Tom Lord, R. Sydenham, Thomson & Son, and Cartwright were the chief prizetakers.

For points taken in the last five classes a special silver bowl, value 5 guineas, was awarded to Messrs. Thomson & Son, having been offered by Mr. R. C. Cartwright, Birmingham.

The single bloom classes were keenly contested. For single bloom Carnations Mr. C. F. Thurstan was first with S. B. Robert Houlgrave and Messrs. Thomson & Son and Mr. Cartwright second and third with the same variety. For a C. B. J. S. Hedderly, Mr. J. Whitham was first, Mr. Thurstan second with the same variety, and Mr. R. Sydenham third with Master Fred. For a pink or purple bizarre Mr. Tom Lord was first with W. Skirving, Mr. E. C. Rossiter second with Geo. Rudd, and Messrs. Thomson & Son third with W. Skirving. For a scarlet flake, Mr. R. Sydenham was first with Sportsman, Mr. Tom Lord second with Guardsman, and Mr. Cartwright third with Sportsman. For a rose flake, Messrs. Thomson & Son were first with Merton, second with Crista Galli, and Mr. R. Sydenham third with Merton. For a purple flake, Mr. J. Whitham was first with Geo. Melville, Mr. Cartwright second with Gordon Lewis, Messrs. Thomson & Son third with Geo. Melville, and Mr. Tom Lord fourth with Gordon Lewis.

For a single Picotee, heavy red edge, Messrs. Thomson and Son were first with Isabel Lakin, Mr. Tom Lord second with Brunette, Mr. R. Sydenham third with No Plus Ultra, and Mr. Cartwright fourth with Isabel Lakin. For a light red edge, Mr. F. W. Goodfellow was first with Mrs. Gorton, Mr. Tom Lord second with Thos. William, Mr. Goodfellow third with the latter variety, and Mr. Cartwright fourth with Mrs. Gorton. For a heavy purple edge Messrs. Thomson & Son were first with Mrs. Oppenshaw, Mr. Bellamy second with Muriel, and Mr. Cartwright third with Muriel. For a light purple edge Mr. Tom Lord was first with Nymph, Mr. R. Sydenham second with Pride of Leyton, and Mr. R. Cartwright third with Somerhill. For a heavy rose edge Mr. C. F. Thurstan was first with Lady Louisa, Mr. Tom Lord second with Mrs. Rogers and third with Campanini, Mr. R. Sydenham fourth with Lady Louisa, and Mr. Cartwright fifth with Mrs. Beswick (new). For a heavy scarlet edge, Messrs. Thomson and Son were first with Clio, Mr. R. Sydenham second with Mr. W. Barron, and Mr. Thurstan third with Mrs. Sharp. For a rose or scarlet edge Mr. Crossly Head, Hedden Bridge, was first with Nellie, Messrs. Pemberton & Son second with the same variety, Mr. Tom Lord third with Fortrose, Mr. Bellamy fourth and Mr. C. F. Thurstan fifth with the same variety.

For a yellow ground Fancy Picotee, Mr. A. W. Jones was first and

second, Mr. Chatwin third, and Mr. R. Sydenham fourth and fifth with Voltaire. For a Fancy Carnation, Mr. Herbert Smith was first with Perseus, Mr. A. W. Jones second with Csarina, Mr. R. Sydenham third with Perseus, and Mr. A. R. Brown fourth with Pelegia. For a white self, Messrs. A. W. Jones, D. Walker, and R. Sydenham were all represented by Mrs. Eric Hambro. For a buff or terra-cotta, Mr. Chatwin was first with Mrs. Colby Sharpin, Mr. R. Sydenham second, and Mr. Tom Lord third with the same. For a yellow self, Mr. A. W. Jones was first with Germania. For a blush or flesh self, Mr. R. Sydenham was first with Seagull, and second with Her Grace, Mr. A. W. Jones third with Her Grace, Mr. A. W. Jones fourth with Seagull, and Mr. Chatwin fifth with the same variety. For a scarlet self, Mr. A. W. Jones was first with Lady Hindlip, Mr. R. Sydenham second with H. Diver, and third with Isinglass,



FIG. 28.—COREOPSIS LANCEOLATA.

and Mr. Thurstan fourth with Lady Hindlip. For any other dark self, Mr. R. Sydenham was first and second with Roseleigh Gem, and Mr. Cartwright third with the same variety.

For Carnations and Picotees in pots the first prize went to Messrs. Thomson & Son, and the second to Mr. R. Sydenham, both with good examples. For six distinct Carnations in pots Mr. Sydenham won Mr. E. Benary's prize of one guinea.

Bouquets were not numerous represented. Messrs. J. Pope & Son were awarded the first prize for an artistically arranged Carnation bouquet, and Messrs. Artindale & Son the second prize, the third going to Mr. A. R. Johns, King's Norton. Spray of Carnations or Picotees, Messrs. Pope & Son were first, Mr. C. L. Branson second, and Mr. C. R. Kemp, third. For three buttonholes, first Mr. G. F. Spittle. In the class for a dinner-table decoration the first prize was awarded to Miss R. Sydenham.

Sweet Peas formed an important feature, and for nine varieties in bunches Mr. V. B. Johnstone, Tettenhall, was awarded the first prize for a grand arrangement of fine blooms (Eckford's varieties) as follows:—Prince of Wales, B. Burpee, Mrs. J. Chamberlain, Lady N. Balfour, Black Knight, Chancellor, Salopian, G. Cadogan, Venus, Duchess of York, Senator, and Queen Victoria. The second prize went to Mrs. A. W. Hulse, Birmingham.

For Mr. R. Sydenham's prizes for Sweet Peas, nine bunches, were awarded to Mr. V. B. Johnstone, Mr. W. Bellamy, and Mr. C. L. Branson, Colehill, in the order named. For a floral decoration of Sweet Peas Mr. A. W. Hulse was first; Mr. J. Sceany, Harborne, second; and Miss R. Sydenham third.

PREMIER BLOOMS.—Mr. A. W. Jones with Fancy Carnation Perseus, Mr. W. Bellamy with self Carnation Endymion, Mr. R. C. Cartwright with bizarre Carnation Gordon Lewis, Mr. Tom Lord with heavy edge Picotee Lady Louisa, Mr. R. Sydenham with flake Rob Roy, Mr. R. Sydenham with a yellow ground Picotee.

In addition to the competitive exhibits there was a large and attractive display by the trade, chief among which was a remarkably fine collection of herbaceous cut flowers, set up with admirable taste by Messrs W. F. Gunn & Sons, Olton, Birmingham, and to which a silver medal was awarded. A similar award was given to Messrs. Kelway & Sons, Langport, for a superb collection of Gladioli: certificates of merit being awarded to their two new varieties, Flying Fox and Prince Ranjitsinghi. Silver medals were also awarded, to Messrs. Perkins & Sons, Coventry, for a collection of Roses; to Mr. Wm. Sydenham, Tamworth, for a display of herbaceous flowers, Violas and Roses; to Mr. S. Mortimer, Farnham, for Cactus and Show Dahlias, and to Messrs. Hewitt & Co., Birmingham, for floral decorations. Bronze medals were awarded to Messrs. Pritchard and Son, Shrewsbury, for Carnations; to Messrs. Simpson & Sons, Birmingham, for Sweet Peas; to Messrs. Cutbush & Sons, London, for Carnations; to Mr. J. H. White, Worcester, a first-class certificate for a collection of herbaceous cut flowers.

LIVERPOOL.—AUGUST 3RD, 4TH, 5TH, AND 7TH.

OPINION has been freely expressed as to the suitability of the Liverpool Horticultural Show being held in conjunction with the Royal Lancashire Agricultural Society, but no one, after seeing the magnitude and the success which has attended the efforts of the Committee connected with both Shows, would for a moment hesitate to say that the amalgamation was not sound policy. To show how great was the interest centred in trying to make horticulture a fitting companion to a riculture, we may mention that a huge tent, over 400 feet long by 42 feet wide, was scarcely sufficient to accommodate the display of flowers, fruits, and vegetables brought together; and never since the days when Messrs. Cypher, Finch, Cromwell, and Mease, with the late Mr. Cox, used to do battle together has the Association been in such a proud position as regards exhibits.

PLANTS.

For ten stove and greenhouse plants, Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, had perhaps as handsome a collection as has ever been seen in Liverpool, the Palms being fresh and well clothed, Crotons a trifle short in colour, but flowering plants, such as Bougainvillea glabra, Ixora Prince of Orange, and Erica retorta major as perfect as one could wish to see. Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, came second with good but smaller specimens, Crotons Countess, mortfontainensis, Ixora coccinea superba, and Clerodendron Balfourianum being most telling. The class for three stove and greenhouse plants in bloom saw Mr. Bracegirdle again to the front, Bougainvillea glabra Sanderiana being splendid; Mr. Hitchman, gardener to Arthur Earle, Esq., Childwall Lodge, was a capital second.

In the classes for four fine-foliage plants, three Palms, six exotic Ferns, two classes of single Ferns, three Fuchsias, and one Fuchsia, Mr. Bracegirdle won all along the line, the plants of Davallia filiformis plumosa and Gleichenia Mendeli standing out most conspicuously. Messrs. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, R. Pinnington, and T. Gowen, gardener to J. A. Bartlett, Esq., Lynton Lodge, Mossley Hill, were excellent seconds and thirds in various classes. Mr. George Easton, gardener to W. H. Shirley, Esq., Allerton House, Allerton, showed the highest cultural skill in winning the class for three Ferns, six Caladiums, and four Ivy-leaf Pelargoniums. The classes for Crotons and Dracenas in 8-inch pots brought out many fine plants, Messrs. Gowen and Carling winning.

Orchids have been seen in better condition, but the four staged by Mr. E. R. Finch, gardener to Joseph Smith, Esq., Newstead, Wavertree, containing three well-flowered Cattleyas, and the single Oncidium Lancanum from Mr. W. Lyon, gardener to A. M. Smith, Esq., Bolton Hey, Roby, were very creditable. For cool Orchids F. Cross, Esq., showed admirably. Begonia classes were of a high standard, Mr. T. Ankers, gardener to W. B. Bowring, Esq., Grassendale, winning. The Coleus and Zonal Pelargoniums from Mr. Hitchman were clean, and the latter beautifully flowered. Mr. E. Bridge, gardener to Mrs. Jowett, Greenhill, Huyton, came a clever second. Cockscombs, Gloxinias, Lilliums, Cannas, and Lycopods were fairly well shown, Messrs. Bridge, Lyon, Moorhouse, gardener to S. Brocklehurst, Esq., West Derby, E. R. Finch, and Mr. W. Bustard, gardener to T. McClelland, Esq., staging.

GROUPS AND CUT FLOWERS.

In Liverpool groups are not fully up to the standard of those in many parts of the country, lacking that natural and free charm that is so requi-

site. The large group from Mr. Bracegirdle was a long way in advance, and reflected very high commendation. The half-circular one by Mr. Gowen showed good work.

Cut flowers were magnificently arranged. In Roses Messrs. Alex. Dickson & Sons, Newtownards took the lead for forty, quality being the leading feature. Messrs. Harkness & Sons, Bedale, came a good second, and Mr. Hugh Dickson, Belfast, third. For eighteen Teas and Noisettes Messrs. Cocker & Sons, Aberdeen, succeeded in beating Messrs. Alex. Dickson & Sons, both stands being especially good, the latter scoring for six light and six dark. In the local class Mr. T. Raffles Bulley, Liscard, had a capital twelve. The boxes of cut Roses, arranged for effect, numbered four, Mr. P. Green, gardener to T. Gee, Esq., Greenhill, Allerton, winning. The stove and greenhouse cut flowers from Mr. Carling showed to perfection. No greater twenty-four hardy herbaceous cut flowers have ever been seen than the winning set from Messrs. Cocker & Sons and Harkness & Son, who won in the order named. The Carnations from Mr. W. Neish, gardener to J. H. Ismay, Esq., Caldy Manor, were of the best.

FRUIT AND VEGETABLES.

Fruit was not too liberally displayed, but there was good quality, the six dishes being won by Mr. T. Elworthy, gardener to Messrs. W. L. and R. F. Gladstone, Court Hey, Roby. These were Madresfield Court and Muscat of Alexandria Grapes, a fine Melon, Bellegarde Peach, Lord Napier Nectarine, and Brown Turkey Fig, all being clean and well ripened. Mr. W. Oldham, gardener to J. Beecham, Esq., Ewanville, Huyton, was a good second. For black and white Grapes the winners were Messrs. T. Reid, gardener to D. Wilson, Esq., Claughton, T. Elworthy, T. B. Kendall, and H. A. Sanderson. For four dishes of fruit, Mr. T. Eaton, gardener to J. Parrington, Esq., Roby Mount, Roby, had a most perfect exhibit. Wonderful fruits of Royal George secured the Peach class for Mr. B. Ashton, gardener to the Earl of Lathom, Lathom House, and Lord Napier the Nectarine for Mr. Elworthy.

Vegetables, although not in such abundance as one would have liked, were fine, and the respected Mr. B. Ashton, successor to the well known grower, Mr. J. Hathaway, had grand produce in classes for twelve and six varieties and four dishes of Potatoes. Mr. W. Bustard won with eight varieties, Mr. Lyon with two dishes each of Potatoes and Tomatoes, and Mr. Salisbury, gardener to L. F. Bahr, Esq., with four dishes of Peas.

NON-COMPETITIVE EXHIBITS.

The majestic Palms, foliage a d stove and greenhouse plants towered right away the whole length of the centre of the fine tent, the side tables being filled with such a grand trade array as has seldom been seen in Liverpool. First and foremost was the splendid exhibit from Messrs. R. P. Ker & Sons, Aigburth, which for quality could not be excelled. The choice Crotons will not soon fade from memory, or the display of their crimson Gloxinias, Dracenas, Cannas, and foliage plants generally. Messrs. Dicksons, Ltd., Chester, were in strong force with herbaceous cut flowers, the collection being large, varied, and quite up to the usual high standard; a first certificate was given for a fine flaked Carnation named "His Honour." Messrs. Alex. Dickson & Sons, besides winning the premier prize for Roses in competition, made a commanding display of cut Roses not for competition, the substance and colour of which brought forth the highest encomiums from delighted visitors. Mr. Eckford's Sweet Peas shone particularly strong, as they deserved, the choice colours and admirable arrangement showing the good work which this firm has carried out so successfully. The Carnations from Mr. C. A. Young, West Derby, showed again how thoroughly interested our great Liverpool grower is in his work, the varieties and colouring being most remarkable. Messrs. T. Davies & Sons, Wavertree, had choice Ericas, Sweet Peas, and foliage plants, all in the pink of perfection. Mr. H. Middlehurst, Liverpool, maintained his reputation as a most successful exhibitor of Sweet Peas. Mr. Septimus Pye, Garstang, had a large assortment of cut Violas and Carnations.

Mr. Hugh Dickson, Belfast, arranged beautiful cut Begonias, while the herbaceous cut flowers from Mr. J. Cocker, Aberdeen, showed to the greatest advantage. The celebrated "Edwardian" ware from Mr. Edwards, of Nottingham, was shown. Messrs. John Cowan & Co., Ltd., Gateacre, had a lovely display of Orchids and miscellaneous plants, and collections of the latter came also from Messrs. Rowlands, West Derby, and Coulton, Aigburth. Outside some of the best firms had large temporary erections, a grand contribution of small Conifers, with splendid dwarf fruiting trees, Apples and Pears, literally laden with fruit, vegetables and flowers, built and splendid cut Roses, coming from Messrs. W. Clibran & Sons, Dicksons, Ltd., Chester, had a fine stand of farm seeds, and everything requisite for a well kept garden. Messrs. Dickson & Robinson, Manchester, kept up their repute by placing farm seeds, vegetables, and flowers of the highest quality. A similar compliment ought also to be accorded Messrs. Dickson, Brown & Tait, of Manchester. Messrs. Webb and Sons, Stourbridge, had one of their celebrated stands, the mention of which is sufficient to all readers. Mr. J. Bramham, of Liverpool, had one of the most extensive exhibits of ornamental wirework ever seen. Messrs. T. Green & Sons staged every description of the superior rollers and mowing machines, for which they are so famed, and Mr. R. Halliday, Manchester, some excellent horticultural buildings. The Boundary Chemical Company, Liverpool, had a fine show of their now indispensable specialities.

The successful undertaking of so great a show has been much facilitated by the excellent and courteous work given by Messrs. Foster and Mercer, Chairman and Vice-Chairman, H. Sadler, the newly appointed Secretary, and the well selected staging Committee.

EWELL—AUGUST 3RD.

A SHOW of more than usual excellence was furnished in the charming grounds of Ewell Grove, the residence of Sir David Evans, on this date, and great credit is due to Miss Evans for the excellent way in which she supervised the arrangements. There were several of the customary decorative plant groups. Mr. Einton, gardener to Sir David Evans, being placed first, although he was very hard run by Mr. Whitman, gardener to A. A. Gaddesden, Esq., both having charming arrangements. Mr. E. Peters, gardener to Major Coates, C.O., had the best foliage and flowering plants, Mr. Whitman being second. Mr. Peters also had the best six Fuchsias, medium-sized but well-flowered pyramids. Mr. Davis, gardener to W. C. Derrant, Esq., had the best six Begonias, and Mr. Einton the largest, but too old, Zonal Pelargonium. There was good competition in table plants, but Mr. Whitman was an excellent first.

Annuals in bunches of twelve kinds made a capital show, and were well competed in. So also were hardy herbaceous flowers in similar quantity. The general defect was crowding the bunches into boxes, whereas they should be shown in glasses or vases, to give more room for the flowers. All the same, there were few more attractive features in the show than these classes formed. With the annuals Mr. Whitman was first, having *Celosia*, *Phlox Drummondii*, *Zinnia*, *Godetia*, *Cosmos planatifida*, *Lavatera*, Sweet Peas. Mr. A. Peters was second. Mr. Whitman also had the best twelve bunches of hardy flowers in *Echinops Ritro*, *Statice*, *Monarda*, *Gaillardia*, *Coreopsis*, *Phlox*, *Everlasting Peas*. Mr. Einton was second. Dahlias, Roses, and other flowers were also exhibited.

In the class for three bunches of Grapes, Mr. Einton was a good first with medium sized bunches of Muscat of Alexandria, having fine berries. Mr. Ayling, gardener to W. H. Walton, Esq., was second with excellent Buckland Sweetwater; and Mr. Horsfield, gardener to Lady Glyn, was third with Black Hamburgh. Mr. Einton was again first with four dishes of fruit, having good Peaches, Nectarines, Muscat Grapes, and a nice Melon. Mr. Davis was second, also with good fruits. In the class for four dishes of hardy fruits, Mr. Whitman was first with excellent Plums, Cherries, Apples and Currants. Mr. J. Elsey, gardener to Miss Carlisle, was second, having excellent Apples, Pears, Apricots and Cherries. Vegetables from gardeners were chiefly found in collections of six kinds, shown in large flats. The best, a capital lot also, came from Mr. Farley, gardener to H. Secretan, Esq., who had fine Runner Beans, autumn raised Onions, Peas, Potatoes, Marrows and Tomatoes. Mr. Peters was second.

Cottagers' exhibits were in great force, and generally excellent. Carrots especially were good. Classes for the largest Potatoes and Vegetable Marrows would be so much better absent, as these encourage great waste, the products being worthless. There were some pretty table decorations, the one shown by Lady Evans taking the first prize as awarded by ladies, being entirely of yellow *Coreopsis* flowers, dressed with Fern and Smilax. A pretty light one was composed of single flowers of a rose-coloured Ivy-leaf Pelargonium and *Gypsophila paniculata*, set up by Miss D. Stone. There were a few trade products present, such as a good group of plants from Messrs. J. Laing & Sons, Forest Hill, some noble Palms from Messrs. Morse Bros., Epsom, and some bright fresh cut Roses from Mr. W. Taylor, Hampton.

BEDDINGTON.—AUGUST 7TH.

BEDDINGTON, Carshalton, and Wallington was *en fête* on Bank Holiday. The weather was pleasant for outdoor sports, and thousands made Beddington Park a point to travel to from surrounding districts, alike to see the sports, hear the music, and see the flowers, vegetables, and fruit, and see the demonstrations with live bees given by an expert of the 'Surrey Bee-keepers' Association. Two tents were devoted to horticultural produce. In one the vegetables were arranged in collections and single dishes, also wild flowers, hardy fruit, jars of tempting jam and honey, and bottles of pickles; also Potatoes cooked and ready for eating.

The collections of vegetables were important, and there was keen competition in the class for nine distinct kinds, which was open to all amateur gardeners and cottagers in the district. An excellent collection staged by Mr. J. H. Stevens, gardener to E. G. Coles, Esq., The Lodge, Carshalton, was first. This collection contained Wheeler's Imperial Cabbage, Autumn Giant Cauliflower, Long White Vegetable Marrow, Snowdrop Potatoes, Excelsior Onions, Early Gem Carrots, Telegraph Cucumbers, Titan Runner Beans, and Peas. The second prize was taken by Mr. H. Shoebridge, gardener to Mrs. M. Beddington, The Limes, Carshalton; Beans, Cabbage, and Beet were good. Third prize was taken by Mr. Harvey Hopkins, Carshalton; Runner Beans, and Beet were the best kinds in the collection. The fourth was secured by Mr. J. Cripps, gardener to F. Easterbrook, Esq., Park Hill, Carshalton. Fifth was awarded to Mr. W. E. Humphreys, gardener to A. H. Smee, Esq., J.P., The Grange, Hackbridge; and the sixth by Mr. C. Pearce. The prizes are given by points, the total amount divisible being 45. The points and amounts were as follows:—First, Mr. Stevens, with 55 marks, 18s. 11d.; second, Mr. Shoebridge, with 50 marks, 16s. 11d.; third, Mr. H. Hopkins, with 49 marks, 16s. 7d.; fourth, Mr. J. Cripps, with 48 marks, 16s. 3d.; fifth, Mr. W. E. Humphreys, with 47 marks, 15s. 10d.; and sixth, Mr. C. Pearce, with 46 marks, 15s. 6d.

In the class for a collection of vegetables, six distinct kinds, first was awarded to Mr. F. Fuller, Wallington; a remarkably even collection, containing green Vegetable Marrows, Globe Beet, Potatoes, Onions,

Runner Beans, and well coloured Tomatoes; second was obtained by Mr. Harvey Hopkins, good even sized Vegetable Marrows, Onions, and Potatoes being a feature; third prize was won by Mr. O. McKee, Golden Terrace, Beddington Corner; fourth by Mr. W. White, Westcroft Stables, Carshalton; and fifth by Mr. J. Buckenham, The Wrythe, Carshalton. Salads in six kinds were well exhibited, Mr. Harvey Hopkins taking first for a beautifully fresh collection containing Lettuce, French Breakfast Radishes, Mustard and Cress, Beet, and Onions; second to Mr. J. Buckenham; third to Mr. W. Ames. Mr. W. Lumley was first for a brace of Cucumbers; for a dish of Broad Beans Mr. Albert Law, Beddington Lane, was first. Mr. W. White secured the prize for six long Beets; and Mr. W. Ames for six Turnip-rooted Beets. Mr. O. McKee was first in each instance for six bunches of Herbs, three Cabbages, dishes of Peas, Scarlet Runners, French Beans, six Carrots, and three Cabbage Lettuce. Mr. F. Fuller secured the prize for three Vegetable Marrows, and for nine Onions spring sown Mr. W. White was first. In nine Onions autumn sown Messrs. W. Ames and J. Buckenham took equal first. First for Shallots was secured by Mr. T. Smith, Clare Villas, Carshalton, with fine samples. For two Red Cabbages first was secured by Mr. Albert Law, and for three Cos Lettuces first was taken by Mr. J. Buckenham. Potatoes were good, clean, and even in size. First for two dishes taken by Mr. J. Buckenham with Snowdrop and Supreme, and first for coloured Potatoes by Mr. J. Buckenham with splendid samples. For a dish of six Tomatoes Mr. W. Lumley secured first.

For three dishes of fruit Mr. Harvey Hopkins was first with fine ripe Gooseberries, Black and Red Currants, also for dish of Gooseberries. Black Currants were very fine, and for a dish of single berries Mr. W. Stedman, Penalver Cottage, Church Lane, Beddington, was first, also for Red Currants on stalks as grown. Raspberries were scarce, Mr. E. Bradley, Bandon, securing first prize. For dish of six Apples Mr. J. Parfitt, Carshalton was first.

Mr. W. Stedman was first for six window plants. In the class for the best arrangement of cut flowers an excellent stand was furnished by Mrs. E. Scragg, Bandon Hill. Cut flowers and Grasses were well represented, Mrs. Fanny Stevens, West Street Lane, Carshalton, taking first for six bunches and collection of Grasses.

In the group of plants arranged for effect, open to all gardeners and amateurs in Surrey, Mr. G. H. Stevens, gardener to E. G. Coles, Esq., The Lodge, Carshalton, was first. His group was splendidly arranged, with a large well-coloured Croton as a centre, flanked round with *Campanula pyramidalis*, *Trachelium caeruleum*, Lilliums, Cannas, *Dracenas*, Maidenhair Fern, *Panicum*, and *Lobelia*. The second prizewinner was Mr. W. E. Humphreys, gardener to A. H. Smee, Esq., The Grange, Hackbridge. His group was exceedingly attractive with Lilliums, *Caladiums*, Palms, Ferns, and *Panicum* edging. Third prize went to Mr. A. E. Gates, gardener to R. W. B. Miller, Esq., Brighton Road, Sutton. This was a neat well coloured collection, containing *Coleuses*, *Gloxinias*, large Maidenhair Ferns, and *Acer*. Table plants were small but creditable. In the class for groups open only to amateurs employing not more than one man and a lad, Mr. A. Etheridge, gardener to A. L. Cressy, Esq., Wallington, was only exhibitor, taking first. He had a neatly arranged collection, containing some good double Begonias, well coloured *Dracenas*, *Caladiums*, *Gloxinias*, Maidenhair Fern, edged with *Panicum*.

The most tastefully arranged table decoration was that set up by Mr. H. E. Gates, gardener to R. W. B. Miller, Esq., Brighton Road, Sutton. It was lightly composed of Iceland Poppies, Grasses, sprays of *Adiantum gracillimum*, and trails of *Selaginella*. Second by Miss Clara Higgins, La Huerta, Upper Wallington. The first prize for the most tastefully arranged dinner table was secured by Mrs. H. M. Hales Mosley, Denmark Road, Carshalton. It was composed of yellow *Coreopsis* and *Gypsophila* and trails of Smilax. Second went to Mrs. A. C. Robinson Roma, Stratford Road, Wallington. *Coleuses* were well shown by the first prizewinner, Mr. H. Shoebridge. Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, London, had an effective group of hardy flowers, Roses and Dahlias. An excellent stand of double and single tuberous Begonias was staged by Mr. Garland, gardener to C. Greaves, Esq., Wallington, not for competition. *Caladiums* were specially good plants, well coloured. Mr. A. Etheridge, gardener to A. C. Cressy, Esq., Hazleden, Wallington, was first. Mr. H. Shoebridge, gardener to Mr. M. Beddington, The Limes, Carshalton, second.

Fruit was not numerous. For two bunches of white Grapes Mr. H. Shoebridge was first with Muscat of Alexandria. For three bunches of black Grapes the same exhibitor was first. Second Mr. Thos. Osman, The Gardens, Ottershaw Park, Chertsey. For Peaches Stirling Castle and Nectarines Dryden Mr. W. E. Humphrey, gardener to A. H. Smee, Esq., was first, the five Nectarines also taking the silver medal. Mr. J. H. Stevens took first for six dishes of hardy fruit.

For twelve bunches of stove and greenhouse flowers, first went to Mr. J. H. Stevens. Hardy flowers were well shown, but not in quantity; the quality, however, was good. Six tuberous Begonias, single and double, first prize secured by Mr. A. Etheridge. Mr. H. Shoebridge took first for six excellent *Gloxinias*, healthy well-flowered plants. For three stove and greenhouse plants Mr. A. Etheridge was first. For three exotic Ferns Mr. J. Galvin, gardener to H. Butcher, Esq., Russell Dene, Purley, was first with *Adiantum cuneatum* and *Pteris serrulata cristata*.

In the competition for the Surrey County Council points the exhibitors in the champion class were five. This was for the best kept and cropped allotment or cottage garden. First, Mr. Harvey Hopkins, 157 points; second, Mr. Oliver McKee, 129; third, Mr. W. Henn, 116; fourth, Mr. E. Bradley, 108; fifth, Mr. J. Parfitt, 72. Mr. Harvey Hopkins has the best allotment in Surrey.

THE YOUNG GARDENERS' DOMAIN.

MUSHROOM CULTURE.

(Concluded from page 108.)

THE spawn cakes may be broken up into pieces about 1½ inch square, which should be inserted to the depth of 2 inches, and about 8 inches apart. If the spawn is good, the mycelium is easily discernible by the white thread-like appearance it has when broken. After spawning, the bed may have 2 inches of fresh soil—loam if possible—put over it, which must be made firm and level. If the heat of the bed still declines, cover with mats. In a month or six weeks the Mushrooms will appear, and strict attention hereafter should be given to the temperature. If possible admit air, but exclude light and draughts. The floor of the house must be moistened daily, remembering always that a close atmosphere is the cause of many partial or total failures. The longer the bed can do without watering, the better the results, yet drought must be avoided.

If either hay or straw is used as a covering for the beds in the Mushroom house, woodlice may be troublesome, and must be rigorously destroyed, as they breed very rapidly. An ideal place for a Mushroom house is at the back of a high wall and facing north, and if any glass houses are on the other side, a hot-water pipe should be taken through into the house, to heat it in cold weather. A temperature of 55° is suitable for Mushroom growing, though it is easy to grow them with less heat. If Ivy is allowed to grow over the house, roof included, a regular temperature can be kept at all times of the year. The entrance to the Mushroom house should be from the inside of another shed if possible, and if the inside floor of Mushroom house is 2 feet below the ground level, beds for late crops should be put on it, and the first or early beds on the stage above, presuming there is one. Excellent crops are grown in cellars, also in ridges outside.—FOREMAN X.



FRUIT FORCING.

Melons.—Late Fruit.—If Melons are required very late, seeds should now be sown. Plants from this sowing will be fit to put out in about a month, and setting their fruit in September, will afford Melons from November to the new year. This, however, can only be effected in a light, airy, well-heated structure, and not always then, for Melons abhor the autumn mists and fogs. Bottom heat is absolutely necessary, and is best furnished by hot water in a chamber, as fermenting materials induce too much vigour in the plants, and decline in heat when most is required.

Late Summer and October Melons.—To insure these, the plants must be placed out at once, giving them about a couple of barrowloads each of good loam, with a fifth each of sweetened horse droppings and old lime rubbish intermixed. Make the compost very firm, and have it in a moist state before planting. Strong plants, watered the previous night, only are suitable, for it is far more difficult to produce late than early Melons. Encourage the plants to make free growth by syringing at closing, and damping the floors and walls in the morning and evening of hot days. Ventilate between 70° and 75°, and keep the temperature at those figures through the day, 85° to 90° from sun heat, closing so as to raise the heat to 95° or 100°, allowing it to fall to 65° through the night. The plants will show and set fruit upon the first laterals, and the plants being almost at fruiting stage when put out, this will speedily be effected.

Plants Swelling Their Crops.—Overcropping ruins more Melons than anything else, therefore reduce the fruits when fairly swelling to two on a weakly plant, three on one moderately vigorous, four on a strong, and six on large plants. Overcrowding prejudices the quality of the fruit, which requires all the solidity that can be given to it, and to effect this the growths must be kept fairly thin, all having exposure to light. Stop the laterals to one joint, and prevent overcrowding by thinning them. Earth up the plants as the roots protrude, less soil being needed than earlier in the season, and afford copious supplies of liquid manure. Syringe from 3 to 4 P.M. or earlier, and then raise the temperature from sun heat to 95° or more. With due supplies of water at the roots, shading will not be necessary, or only after dull weather, when a light shading will be of benefit from powerful sun until the plants become injured to it. Place supports to the fruits in good time, and slanting so that the water may not rest upon them.

Fruit Ripening.—A dry atmosphere is essential to secure quality and prevent the fruit cracking. Admit a little air constantly, maintaining a circulation by gentle warmth in the pipes, and employing enough artificial heat to keep the temperature at 70° to 75° by day, advancing 10° to 15° from sun heat, and to prevent it falling below 65° at night. Withhold water from the roots, but the foliage must not flag or the quality of the fruit will be seriously deteriorated. Where there is fruit swelling in the house an occasional damping will be necessary for the benefit of the foliage, and it will not affect the ripening fruit disastrously if plenty of air is afforded.

Late Plants in Pits and Frames.—The setting of the fruit should now be effected, to allow time for its swelling and ripening. If necessary

give a good watering before the flowering, open and line the sides of the frame and bed with hot manure. Give a little ventilation constantly at the top, so as to prevent the deposition of moisture on the blossoms, and continue it till the fruit is set and commences swelling. Impregnate the pistillate flowers daily, and when sufficient fruits are obtained remove all flowers, and afterwards keep the growths well stopped and fairly thin, so that they may have plenty of air and light. Maintain a moist and warm atmosphere to assist the swelling of the fruit, closing early with sun heat, and sprinkling the plants on fine afternoons. Water will be required twice a week in bright weather, but supply it sparingly or not at all when dull, and admit a little air to prevent a stagnant atmosphere. Ventilate early on fine mornings, and maintain a temperature ranging from 80° to 90° through the day from sun heat. If sunny weather prevails, and the heat is properly maintained by linings, the fruit will often be good up to November.

Vines.—Early Forced.—Although the Vines have the wood ripe and some of the foliage is falling, there must not be any attempt at removing it or to cut the laterals close in, as that would probably cause the principal buds to start. This must be prevented by removing the laterals by degrees and shortening some of the long shoots, reserving, however, some growth above the buds to which the Vines are to be pruned, the final pruning being deferred until the early part of September. Where the Vines are not satisfactory, the old surface soil should be removed and forked from amongst the roots, raising any that are deep and laying them in fresh material near the surface. Good calcareous loam, or that containing a rather free admixture of small stones and grit, broken up roughly and well firmed about the roots, is the most suitable compost. If of a non-calcareous nature add a sixth of old mortar rubbish, if heavy, a similar proportion of opening material, such as freestone chippings, or even gravel; and if light and gravelly, the same amount of clayey marl dried and pounded. Crushed or half-inch bones may be used indiscriminately—say, a bushel to a cartload of loam, and a similar proportion of "inch" charcoal. Where the loam is very turfy add 7 lbs. of kainit, and 14 lbs. of basic slag phosphate to each cartload of loam. Give a moderate watering and the roots will push, especially adventitious ones, from near the collar, into the new soil at once, and the Vines will start freely when the time arrives for doing so. If the drainage is defective and the whole of the soil has to be removed, perform the lifting expeditiously, and if the Vines are weak it is desirable to give a season's rest or crop very moderately.

Midseason Houses.—The Grapes colour rapidly during bright weather, and though not so large in berry they are of high quality. Red spider has been very troublesome in some cases, but upon the whole Vines have flourished with the extra heat and light, especially Muscat of Alexandria, which has the Grapes better ripened and coloured than usual. Where the fruits are ripe it will be necessary to employ a slight shade over the roof-lights to prevent black Grapes losing colour, and Buckland Sweet-water, Foster's Seedling, and similar varieties from having the berries browned. A double thickness of herring nets over the roof-lights, and some hexagon netting over the ventilators to exclude wasps and flies, will insure the Grapes keeping in good condition for a considerable time.

Where the Grapes are ripening copious supplies of water will be necessary; even outside borders may need applications, and the borders can be mulched with an inch or two of short material. If liquid manure is given it must be of a sustaining nature, and moderate air-moisture will be necessary for the benefit of the foliage. This can be accorded by damping the paths and borders occasionally, and will not do any harm to the Grapes, provided the ventilation is free and a circulation of air insured at night. A little fire heat will be advisable in case of dull and damp weather prevailing, but it need not be more than to secure 70° to 75° by day, and 60° to 65° at night, and admit of a circulation of air constantly, as it is stagnant air that conduces to spotting and cracking in the berries. Allow a fair spread of foliage over black Grapes, but keep that of the white varieties rather thin, not permitting crowding in either case.

THE KITCHEN GARDEN.

Celery.—After being planted a few weeks Celery is liable to open out considerably, and the stalks to split when made to assume an upright position. To prevent this the plants should be early cleared of small lower leaves, sucker growths, and weeds; and after receiving a good watering have about 2 inches of fine soil placed about them, to keep the stalks upright. Care must be taken not to bury the hearts, or to press the stalks too closely together. As the heart advances more fine soil may be packed about the stalks. The Celery ought to be ready for use three weeks after the final addition of soil. Celery required for exhibition is usually bandaged with brown paper prior to moulding.

Watering Celery.—When these notes were penned large stocks of Celery were still unplanted, as it is useless putting them out in hot dry weather unless they can be kept constantly moist at the roots. Enough water must be applied to thoroughly moisten the soil and manure in the trenches, which are crowded with hungry roots. Nor ought watering to cease directly the plants are partially earthed, as they require water or liquid manure nearly as often afterwards. The old-fashioned plan of fixing small drain pipes upright at short distances apart between the plants is a good one, as it admits of water or liquid manure being freely applied, with the certainty that it will reach the roots and not touch the hearts of the plants.

Beans.—Kidney or Dwarf French Beans have cropped remarkably well this season, in marked contrast to the Scarlet Runners, nor will they fail very quickly if the pods are gathered, whether wanted for use or not, as fast as they are fit. Maturing seed puts the greatest strain on the

plants, and should be prevented, especially when good green vegetables are so scarce. Watering and a mulch of manure would do good service this season. Seeds sown now ought to be in a position where the plants can readily be protected in the event of an early frost.

Runner Beans have, and still are failing to set good crops. If not already done, give a thorough soaking of water or liquid manure. This should be followed up with a wide, deep mulching of strawy manure. Stop the haulm when near the tops of the stakes, and gather what pods have set. Those grown without stakes ought to be gone over once a week and have every running growth snipped back to near the main stem. If once allowed to grow freely and get into a tangle the crops will be of the poorest. In wet weather the pods are liable to be splashed and become dirty. A mulching of strawy manure prevents this, and otherwise benefits the plants.

Onions.—Fully matured Onions should not be left standing on the ground, as they are liable to start rooting afresh in showery weather. All that come away from the soil readily ought to be pulled, harvested on boards or wattled hurdles, and stored in a cool dry place. These early crops may be closely followed by Coleworts or small hearting Cabbages, planting them in moistened drills 1 foot apart each way.

Seed of Tripoli and White Spanish types of Onions should be sown now on well prepared ground in shallow moistened drills, drawn 10 inches to 12 inches apart. The White Lisbon is one of the best varieties for sowing somewhat thickly and drawing young for salad purposes, while the White Spanish varieties are quite as hardy as the Tripolis, and of more value when grown, keeping much better.

Potatoes.—In the more southern parts of the country, where the rainfall has been exceptionally light and the heat intense, the crops are maturing early, and the tubers are undersized. Directly the haulm has turned yellow, and the skins of the tubers are set moderately hard, the crops should be lifted, graded, and stored, thinly at first, in a cool, dark, dry place. If left in the ground a comparatively light rainfall will start them growing afresh—either sprouting or super-tubering—with the consequence that the crop, as far as quality is concerned, will be practically spoilt. An early clearing, breaking down, and firming of the soil admits of extra large quantities of winter greens and other plants being put out, Turnips and Spinach sown, all of which will be wanted.

THE BEE-KEEPER.

THE END OF THE SEASON.

WITH the exception of the Heather the honey harvest is now practically at an end. The Limes yielded a rich supply; the weather fortunately was fine during part of the time they were in bloom, so the bees were enabled to store freely from that source. White Clover is still blooming profusely. The heavy showers which prevailed during the early part of July caused a rapid growth of this indispensable honey-producing plant. What little honey is now obtained by the bees from this and other sources will only be sufficient for their daily requirements.

All surplus chambers should be removed, as when the outside forage is becoming scarce, and a low temperature prevails, the bees will commence to carry down the honey from the supers into the brood nest. It is too late for the bees to finish off any sections that may not be properly sealed over; they should be removed from the hive, and be graded according to quality. At this season there are often found many sections that are only partly sealed over. These must be uncapped and passed through the extractor. The honey thus obtained will doubtless be found to be of first-class quality, and should be kept separate from any of inferior grade.

After the honey has been extracted the sections may be replaced in the crate, and put in their former position in the hive for a few hours. The bees will then thoroughly cleanse them of all adhering honey. If packed in boxes and covered with paper so as to exclude the dust, and stored in a dry place, they will keep in good condition and be ready for use another season. Supers of all descriptions, whether sections, shallow frames, or full-sized frames for doubling purposes, will be found most useful if a large stock of fully drawn-out combs are stored in a suitable place ready for use when required. Bees take more readily to such, early in the season, than they do to foundation when placed in the supers.

STORING COMBS.

It is useless having spare combs unless they are stored in a suitable place, and steps are taken to keep them clean and free from the wax moth. The latter is most destructive to the combs. There are various ways of protecting the combs from the pest, and if the apiary is not a large one, it is an excellent plan to wrap half a dozen frames in newspapers, as this will keep them perfectly free from dust. A dozen sections can be treated in the same manner, and the parcels may then be stored in a box and a few balls of naphthaline placed in it. This will have the effect of keeping them free from the moth.

Another excellent plan which we usually practise, is to obtain some calico and well sprinkle it with carbolic acid. The bottom and sides of a large box are then covered with this prepared calico, and the combs are packed as tightly in the box as it is possible to get them. When quite full the tops of the frames are covered in the same manner, and the lid of the box placed in position. Combs treated in this manner, and stored in a dry place, invariably come out in good condition the following spring. It is, however, advisable to place the combs in the open air for a few hours before using them, as this will have the effect of removing any trace of the carbolic from the combs.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **8, Rose Hill Road, Wandsworth, S.W.**, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Transplanting Common Periwinkle (*Aprila*).—The plants may be safely moved in September if the ground be sufficiently moist. It is one of the best evergreen low-growing plants for covering a bare space of soil, especially in shaded places and beneath trees, and may be freely cut after the growth has been made, or at the end of July or beginning of August. The clipping gives a very formal appearance, hence some trim the plants in the spring, cutting quite close to the ground, or as near as may be with the shears, similar to Ivy, and allow the young growths to remain untrimmed during the season. The growths, however, may be trimmed in a little at the end of July, and then confined to irregularities, a very neat appearance will thus be secured.

Producing a Second Bloom on Roses (*Idem*).—With suitable varieties no further process is needed than to cut away the parts that have flowered to the nearest good bud below the flower stem. Any strong shoots may be shortened to about half their length, but not later than the end of June or beginning of July, which will induce second growth for autumn flowering. The Cluster Rose (*Rosa multiflora*) are summer flowering, and usually do not bloom again in the autumn, indeed it is not advisable to shorten the growth in summer, but secure sturdy well ripened shoots for the following season's bloom.

Sulphur and Ripe Grapes (*H. E. C.*).—We have frequently used sulphur on hot-water pipes in vineries without any injurious effects to black Grapes, and this practice is still one of the best means of keeping red spider in check. No harm would be likely to accrue to your Grapes by the judicious employment of sulphur on the hot-water pipes, heated to 170° and kept so for an hour. After this the pipes may be allowed to cool gradually to the ordinary heat, and the house be ventilated in the customary way. The work is best done in the evening, keeping the house close through the night, but ventilating very early in the morning. By again heating the hot-water pipes to 170° in the course of about four days the fumes of sulphur given off will act well on the red spider then hatched out from the eggs, which the fumes do not destroy, and the pipes may be again heated at a similar interval. We have found such procedure quite safe for Black Hamburgs, but Muscat of Alexandria and White Frontignan, with other white Grapes, sometimes have the berries "blued" by the sulphur fumes. The pipes should not be many degrees hotter than stated. We have raised them to 190°, but beyond that danger lurks. The sulphur should not be used excessively; it is only necessary to lightly coat the pipes on their upper surfaces.

Solanum jasminoides (Worcester).—*Solanum jasminoides* succeeds against a west wall in Gloucestershire and produces abundance of racemes of flowers, which are, needless to say, fine for cutting. It would probably succeed in Herefordshire against an east wall in a sheltered situation, but the shady position may be against its succeeding.

Naming Products at Shows (H. B. P.).—Certainly, when a rule such as the following is printed in a schedule, it ought not to be disregarded by judges and officials, if it is infringed by an exhibitor with an obvious intention to deceive. Here is what you send from the Prescott schedule:—"Rule 11. That all articles for competition shall be correctly named, and the names placed in such a position as to be distinctly seen, and anyone violating this rule will be disqualified." While we are sorry to say that not a few show authorities lightly regard their own "regulations," we suspect the misnaming of Roses in the case you mention was purely accidental, owing to pressure at the moment before judging, and intended to be put right afterwards for the public. No Rose grower would be so foolish as to try to deceive judges by naming Gustave Piganeau Merveille de Lyon. The right names and Roses were probably in the box, and in this case the judges would see there had been no deception; and they would not suppose a genuine showman would like to win other than by the merits of his blooms. Through the misdirection of your letter it could not be answered last week.

Forcing French Beans for Market (Anxious).—French Beans are very uncertain in cropping at the dullest part of the year, November to January inclusive. The best we have grown has been *No Plus Ultra*, closely followed by Canadian Wonder. Of the Runner French Beans we have little experience under glass, especially at the time you name. The dwarfs, in our experience, succeed in the beds after Melons, both sown and transplanted. If the seeds were sown three in a 60-size pot at the end of August and transplanted from the cold frames in September to the houses you should have pods fit to gather in November onwards, the temperature being 60° to 65°, advancing 10° to 15° or more from sun heat. The plants may be placed in rows 2 feet apart, and 9 to 12 inches asunder in the rows. An average yield ranges from 6 to 12 pods per plant, and they realise 6d. to 9d. per 100, or 1 lb. The quickest time French Beans can be grown and cleared in a temperature of 60° to 65° night, 70° to 75° day, with 10° to 15° rise from sun heat, is six weeks during the spring months, and at the time you name ten weeks, or even longer, the weather making the difference. In the houses cleared of early Chrysanthemums in November you will only have two months for growing French Beans, and our experience prompts us to answer your question in the negative, for unless the weather were unusually mild and clear we do not think you could by planting early in December have a paying crop of Beans and clear it off by the end of January for Tomato planting. Why not try on a small scale?

Mossy Park Land (Grass and Moss).—The practice you propose would have a good effect on the moss by removing a part, and the harrowing would not materially injure the grass. Moss and dead grass, however, afford evidence of poverty of soil, and the treatment you propose would not have a permanent effect. If you adhere to your plan we should not harrow the ground until the occurrence of favourable weather during the winter, and then remove all the moss possible, deferring the sowing of the grass seeds until the early part of April. We happen to have made some experiments under similar conditions to yours. On a gravelly soil we found the best cure for moss was liberal dressings of compost, all the refuse of the pleasure grounds and park being collected in a heap, and these—grass edging parings, ditch cleanings, road scrapings, tree leaves, and similar substances—mixed with a tenth part of gas lime, allowing the heap to lie a few months, then turning the outside to the inside, throwing out and burning any woody portions, and scattering the resultant ashes on the heap. Turned once again, and lying until winter, the stuff was applied at the rate of forty cartloads to the acre, spread evenly in November. During favourable weather at the end of February it was bush harrowed, and again early in April, when 10 lbs. of renovating grass seed mixture was sown, and at once rolled well down. We had 2 tons of hay per acre on land that in the previous ten years had not averaged more than $\frac{1}{2}$ ton of hay per acre. The compost was of the previous year's collection and current season's preparation. On another portion of park land we used 10 tons of quicklime per acre at the end of summer. This made an end of the moss, and burned up the dead grass, making the land very bare. In the winter it was given 20 tons of farmyard—stable, cowhouse, and pigstye—manure, evenly spread; bush harrowing followed in March, and grass seeds were sown, as before named, early in April. The result in the first year was not so good as from the dressing of compost, but in the second season the hay crop and aftermath were both better crops than the other. On another plot we applied no lime, but tried the manure alone, 20 tons per acre, and the result was an apparently heavier crop of grass than either of the other plots, but the hay crop was only $1\frac{1}{2}$ ton per acre. On yet another portion of the park we had sheep penned on the aftermath in the autumn, and fed with "cake," with the result that the moss disappeared, and a heavy crop of sweet grass followed. Kainit is excellent for mossy land, applied at the rate of 5 cwt. per acre in late autumn or before February, following with $2\frac{1}{2}$ cwt. of nitrate of soda per acre at the end of March, or when the grass commences growing. At the time of our experiments basic slag phosphate was not obtainable, but we have since observed most satisfactory results by using 8 cwt. per acre with 3 cwt. of kainit in furrowing, followed by nitrate, as advised, in the spring. Whenever possible, however, we advise the use of a natural manurial compost to gravelly soils, as they need humus, and this materially helps such artificial manures as may be applied.

Growing Filberts (A Kentish Amateur).—Several articles on this subject have appeared in our columns from time to time. The number to which you particularly refer is out of print, and we therefore reprint the article specified on page 127.

Mountain Ash Trees Dying (E. L. A.).—The portions of bark indicate destruction by some fungoid body, but that on the specimen is of a saprophytic nature. Possibly the trees are affected by the Mountain Ash canker-fungus, *Cucurbitaria Sorbi*, which we found very malignant on the stems and branches, dead patches appearing on the bark, and from these small fungus bodies were produced. It destroyed the bark on the stems in patches, and even on the branches, in every case killing the part above the point of infection where the parasite had girdled it, even killing the trees in some cases. We found nothing better than uprooting the diseased trees too far gone for remedy. In other cases cutting away the diseased parts in the stem and branches into the quick or living bark, and dressing the wounds with Stockholm tar, thinned into consistency of ordinary paint with paraffin, and applying with a stiff brush was advantageously resorted to. Possibly something may be wrong at the roots, as the Lilacs near appear to be dying. You should make an examination.

Black Truffles (T. Groves).—The specimen you send is an excellent Black Truffle, of which we reproduce an illustration (fig. 29), as we think it will be of interest to you and other readers. Just as many

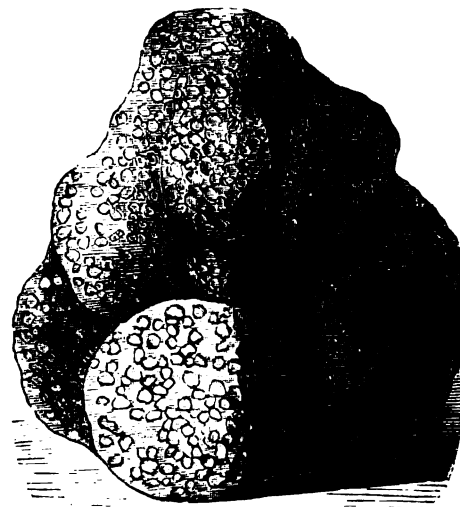


FIG. 29.—BLACK TRUFFLE.

aërial fungi only grow on dead wood, and that of a particular kind, so the Black Truffle is only met with among the roots of trees, and more especially the common and Evergreen Oak and *Quercus coccifera*. It is among the roots of these trees that the Truffles are most abundant, and acquire a perfume that makes them esteemed all over the world. Truffles increase like other allied fungi. When ripe they contain minute spores not exceeding 1-250 of an inch in diameter, and when the Truffle decays in the ground these produce white threads or mycelium, like Mushroom spawn when running, and a fresh crop results.

Tomato Dised (Nom de Guerre).—The fruit is affected by the disease called "spot," and is produced by a fungus named *Cladosporium fulvum* (lycopersici), which, as a spore or spores, commences attack mostly at the eye, though it sometimes infests other parts of the fruit. It is supposed to be induced by moisture resting on the fruit, this weakening, if not destroying, the epidermal or rind tissues. Thus the fungoid germs find the essential condition of germination—namely, moisture, and push the germinal tube or tubes through the cuticle, breaking it down by causing a ferment. Once under the skin, the germinal tubes branch and grow in all directions beneath the cuticle from the common centre in concentric fashion, thus giving a ring-like appearance to the affected part; the mycelial hyphae penetrating, abstracting nourishment from and destroying the underlying cells or flesh, which turns brown or black, and a depressed "spot" is the consequence. This gradually increases in size, and the fruit ultimately becomes rotten. Though this particular disease enters the fruit from the atmosphere, conditions of culture have been found to exert considerable influence on the disease resisting power of the plant. Plants grown sturdily from seed in firm and not over-rich soil, with abundance of light and ample space for development, are generally most disease resistant, and as the malady is known to be accelerated by a moist or stagnant atmosphere, the precaution should be taken to admit a little air constantly, and increase the ventilation by or before the sun acts powerfully on the house. The object is to prevent the condensation of the moisture on the fruit by keeping it as warm as the surrounding air. It is assumed that this prevents the germination of the spores of the fungus, and it certainly conduces to the hardening of the cuticular tissues, thus rendering them more disease resistant. In dull weather a gentle warmth in the hot-water pipes keeps the air in motion, and with due attention to ventilation the disease seldom attacks the fruits, water being withheld from them. Spot is most prevalent during the latter part of the summer, when fire heat is dispensed with, and though air be given day and night, there is, from the range of temperature, some deposition of moisture on the fruit, and the fungus then takes advantage of its opportunities.

Mealy Bug on Vines (R. A. C.).—The touching all the bug on the Vines with ripe Grapes by means of a small brush is a good plan, and not excessively done the methylated spirit will not injure the Grapes. But why not use nicotine essence by vaporising? This will destroy the bug, and repeated a few times at intervals of a few days effect a thorough clearance. The nicotine vapour, however, has a prejudicial effect on Muscat of Alexandria and Lady Downe's foliage, and this must have due consideration in vaporisation with nicotine. Instead of methylated spirits it would also be advisable to use spirits of wine on the bunches.

Antirrhinums from Seed (Tyro).—The white bedding and other named Antirrhinums come quite true from seed, and this is the readiest means of raising a large number of plants. Now is a better time for sowing than early next year, and this season's seed will germinate more strongly than older seed. Sow the seed thinly on the surface of previously moistened pans of light sandy soil, and very lightly cover with fine soil. Cover with a square of glass and either moss or paper, and place in a cool frame or handlight at the foot of a north wall or fence. When the seedlings are large enough prick out in boxes of light soil. Being fairly hardy, some may be planted out in nursery beds, and the rest be wintered in a cold frame.

Plantains on a Lawn (S. E. B.).—You will find the best method of procedure is to lift the Plantains during moist weather with a daisy fork. If care is taken it will draw them up by the roots, and any that break off near the top can have sulphuric acid (oil of vitriol) dropped on the part, and it will kill the root. Our plan in using it is to clean out an old blacking bottle, tie a piece of wire round the neck so as to form a handle to hold the bottle, which makes all safe in handling, then make notches at the end of a stick about as thick as the finger, then notches all round, and about 1 inch up the stick; some of the sulphuric acid being put in the bottle apply the notch end of the stick and it will retain sufficient of the acid to apply to each Plantain, putting it on the root. It will kill the Plantain by applying it to the centre of each plant; but we prefer to pick them up. Care must be used with the sulphuric acid, not trusting it to a careless person.

Tomato Leaves Diseased (J. V. C.).—The yellow spots in the leaves indicate the abstraction of the contents of the cells by the mycelium of a fungus (*Phytophthora infestans*), and its "fruits" are just emerging from the under side of the leaves. They are as yet immature on the yellowish parts, while those on the brown portions have been developed and the spores scattered. The best thing to do is to remove all the leaves or leaflets exhibiting yellow spots and burn them, also every part that has become brown or black, then spray the plants with Bordeaux mixture prepared as follows: sulphate of copper 4 ozs., powdered, dissolving in a vessel by itself in 3½ gallons of water, then slake 4 ozs. of quicklime (quite fresh) in another vessel, and form into a thin lime-wash with water, and pour it through a hair sieve slowly into the vessel containing the copper solution, adding enough water to make 7½ gallons altogether. To make sure that this will not injure the plants drop a few drops of ferrocyanide of potassium into the Bordeaux mixture after it has been well stirred, and if it turn brown it will injure the plants, but if it remain a clear celestial view it is perfectly safe. It should be used as soon as made, not letting it stand for several hours. Any fruits near ripening should be cut, and then spray the plants in every part, repeating in the course of a week or ten days. The mixture may be kept from the fruit by wrapping it in oiled paper before spraying, removing it afterwards. This makes safety double sure as regards danger in using the fruit from the adherent copper. Maintain a dry atmosphere with free ventilation.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. R. M.).—1, *Ilex aquifolium tricolor*; 2, *I. a. ferox argentea*; 3, *I. a. aurea picta latifolia*; 4, *I. a. aurea regina*; 5, *I. a. ferox aurea*; 6, *I. a. aurea marginata*. (G. J. B.).—*Catalpa bignonioides*. (J. C.).—1, *Francoa ramosa*; 2, *Sedum ibericum*; 3, *Gypsophila paniculata*; 4, *Lilium martagon*. (N. B. R.).—1, *Rhynchospermum jasmminoides*; 2, *Acer negundo variegata*; 3, *Spiraea bella*; 4, *Campanula Trachelium*; 5, *Spiraea callosa*; 6, *Clethra alnifolia*. (A. D. J.).—*Masdevallia Harryana*, good form. (L. J. P.).—*Cherry Morella*.

CORRECTION.—By a clerical error *Mandevilla suaveolens* was named *Medinilla suaveolens* in the notes on Battle Abbey, page 103, last line, left-hand column.

NECTARINE PRÉCOCE DU CROUSSELS.—In my report of the Prescott Show, in last week's issue, I stated that the above splendid Nectarine was a fortnight earlier than Cardinal or Early Rivers. What I should have written was that Mr. Doe considered it better, and as early as Cardinal, and quite a fortnight in advance of Early Rivers.—R. P. R.

COVENT GARDEN MARKET.—AUGUST 9TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2 0	3 0	Me'lons each	1 0	8 0
Cherries, ½ sieve,	9 0	14 0	" Rook	2 0	4 0
" cooking, sieve of 24 lbs.	4 0	5 0	Nectarines, per doz.	8 0	9 0
Currants, red, per sieve ...	5 0	6 0	Peaches, per doz.	8 0	12 0
" black, per sieve ...	5 0	6 0	Pears, Californian, case...	8 0	6 0
Figs, green, per doz.	8 0	6 0	" French Williams',		
Gooseberries, sieve	2 9	0 0	" 86 to 56 in a case	4 0	5 0
Greengages, box of 40 to 48	1 8	2 3	Pines, St. Michael's, each	8 0	6 0
Grapes, black	0 6	8 0	Plums, English, per sieve	6 0	7 0
Lemons, case	14 0	20 0	" Californian, case...	4 0	8 0
Greengages, French, sieve	9 0	12 0	Raspberries, doz. punnets	6 0	9 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1 0	2 0	Leeks, bunch	0 2	0 0
Aubergine, per doz.	1 6	2 0	Lettuces, doz.	1 8	2 0
Beans, ½ sieve	2 6	8 6	Mu-brooms, lb.	0 6	1 0
" Longpods, ½ bushel	1 0	0 0	Mustard and Cress, punnet	0 2	0 0
" Scarlet, sieve ...	2 6	3 0	Onions, bag, about 1 cwt.	4 0	4 6
Peet. Red, doz.	0 6	0 0	Parsley, doz. bunches	2 0	4 0
Cabbages, per tally ...	7 0	10 0	Peas, per bushel ...	8 0	6 0
Carrots, per doz.	2 0	8 0	Potatoes, new, cwt.	5 0	8 0
Cauliflowers, doz.	2 0	3 0	Shallots, lb.	0 8	0 6
Celery, n. w., per bundle	1 9	0 0	Spinach, per bushel...	0 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	4 6
Endive, doz.	1 6	2 0	Turnips, bunch...	0 8	0 4
Herbs, bunch	0 8	0 0	Vegetable Marrows, doz.	1 0	1 6

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Arums	8 0	4 0	Marguerites, doz. bnchs.	8 0	4 0
A-paryagus, Fern, bunch...	2 0	2 6	Mignonette, doz. bunches	4 0	6 0
Carnations, 12 blooms ...	1 0	2 0	Monstretia, per bunch ...	1 0	1 6
Eucharis, doz.	4 0	6 0	Orobis, var., doz. blooms	1 6	9 0
Gardenias, doz.	1 6	2 6	Pelargoniums, doz. bnchs.	4 0	6 0
Geranium, scarlet, doz.			Roses (indoor), doz....	2 0	8 0
bnchs.	4 0	6 0	" Red, doz.	1 0	2 0
Lilium Harriai, 12 blooms	8 0	4 0	" Tea, white, doz.	1 6	2 6
" longiflorum, 12 blooms	4 0	6 0	" Yellow, doz. (Perles)	2 0	8 0
Lily of the Valley, 12 sprays	8 0	15 0	" Safrano, doz. ...	2 0	2 6
Maidenhair Fern, doz.			Smilax, bunch	8 0	4 0
bnchs.	4 0	6 0			

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Aspidistra, specimen	15 0	20 0	Heliotropes, doz.	4 0	6 0
Boronia	12 0	18 0	Hydrangeas	6 0	10 0
Crotons, doz.	18 0	30 0	Lilium Harriai, doz.	12 0	18 0
Dracæna, var., doz.	12 0	80 0	Lycopodiums, doz.	3 0	4 0
Dracæna viridis, doz.	9 0	18 0	Marguerite Daisy, doz.	6 0	8 0
Erica various, doz.	80 0	60 0	Myrtles, doz.	6 0	9 0
Euonymus, var., doz.	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz.	4 0	18 0	" specimens ...	21 0	63 0
Ferns, var., doz.	4 0	18 0	Pelargoniums, scarlet, doz.	4 0	6 0
" small, 100 ...	4 0	8 0	Stocks	4 0	6 0
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A REAL DANGER.

EVERY now and then we have scares; the nation, or perhaps a section of the nation, appears to lose its head; we will believe any old wives' fables, and we make ourselves miserable about the improbable.

At one time we fear an outbreak of hostilities; we see a foe where no foe exists; a little passing anger is magnified into serious disquietude; we are ready to mount our guns, call out our ironclads, and march our soldiers; when the matter is explained the cloud disappears, and we regain our accustomed tranquility. Then some scientist calculates the depth and width of our coal measures—so many square miles, so many tons per acre, so much increase in population, and tells us in so many years we shall have no coal, therefore no warmth, and with lack of warmth, no life. Or it is the sun himself who is gradually withdrawing his rays; we are to be plunged in darkness and death. Our Wheat area and bread stuff production will not be adequate to our population, we must either find new equivalents or perish.

The air, the water, the food we eat, are charged with poisons; disease menaces us at every step, life should be a burden, but yet we live on, apparently much in the same manner as before the alarmist spoke or wrote. There is truth in much they tell us; they warn us for our good, sometimes they make us listen; they compel us to heed their words, they succeed in frightening us thoroughly.

We may safely say the latest scare has been about our milk supply, and it is a scare that has touched high and low. We have fully accepted for some time the fact that scarlet and other fevers and diseases may be imparted through milk, and now we have been told to add to the list consumption, or tuberculosis in its protean forms. Consumption touches us all, for, alas! there are few families in the United Kingdom that have not suffered from the scourge. Milk is alike the diet of infant, child, adult, and invalid, and it is a grave question that is presented to us. Is our food to become the means of our death?

Some startling revelations have been made lately with regard to this subject. Milking stock has been condemned wholesale, and it has been ascertained in case after case that a large percentage of our cows are afflicted more or less with this disease. Not being quick in action, a beast may be ailing for some time before the real facts of the case are arrived at. If the symptoms were more marked and defined, the danger and difficulty would be less. The application of the test for tubercle is not at all general, nor will it become so unless enforced by law.

All disease is more or less preventible, and prevention is always better than cure. Bearing in mind that tuberculosis is infectious, means should be taken to separate the healthy from the unhealthy. Find the unhealthy first by means of the tuberculin test, and then insist on isolation— isolation in field, isolation in byre; and get rid of these beasts as quickly as possible. If nearly fat, finish off quickly and kill; some portions of the flesh would be found wholesome, and good for food.

If a cow in calf is found affected, by all means allow her to calve, for unless she has a diseased uterus the calf is practically safe. Tuberculosis is not hereditary, but a calf reared on milk from a diseased cow has not much chance. Take the calf away at once before the mother has time even to lick it, and rear it on the milk of a healthy animal, then there is every chance of the calf doing well.

Fortunately the bacillus of tuberculosis does not thrive in clean,

wholesome surroundings. Light, air, ventilation are all foes of bacilli, but it is sometimes difficult to persuade people to see the force of cleanliness, the value of sunlight, and the beauty of fresh water. They confuse warmth with stuffiness, look upon cleanliness as over-righteousness, and practically sacrifice stock to their own carelessness. Often we know the cow houses are to blame—ill-constructed, draughty, and altogether badly suited for the purposes for which they are intended, but an energetic man can do wonders if he is only alive to the necessity of the case.

But it is not alone in the cow house we may look for this dreaded disease. Pigs are very susceptible. How often one hears of pigs that do no good—i.e., apparently waste away. This is not a quick disease, the victims often linger long, and during all this time are active centres of infection. Ailing stock are never desirable, and we believe that in most cases cold steel is the best cure, and it is the cheapest in the long run.

Man will communicate tuberculosis to animals and vice versa. It is never considered wise to have a delicate nursemaid for young children. It is well to see that the cow man is not of a consumptive turn. We know lung troubles generally mean a good deal of expectation, and it is in that objectionable matter that the bacilli prevail. Tuberculosis must be treated as an infectious disease, but also as one which can be prevented by isolation, ventilation, fresh air, and antiseptics.

WORK ON THE HOME FARM.

We farmers are funny mortals; here we are with our grain crops ripe and ready for the harvest, and our root crops thirsting for rain. Therefore you find one man who depends on his live stock deploring the drought; whilst another, whose grain has done well, and only requires fine weather to secure it, is rejoicing in the high barometer and using strong expressions whenever he sees the rain drops fall.

One thing a farmer learns by experience—i.e., patience, or may we term it philosophy? There is no dependance to be placed in the weather, and quite as little in barometers. We know a man who in harvest time came indoors dripping wet to find his glass at fair. He removed the offending instrument from its peg, took it into the open air, and invited it to see for itself; on a later occasion, the barometer not having profited by the warning, but having repeated the offence, he brought the false prophet from the wall with his hunting crop.

This must be at the root of the grumbling nature of the farmer. He is so helpless to combat the forces of Nature that when they array themselves against him a growl is his only consolation.

The heat has matured the corn very rapidly. Barleys are ripening almost too quickly, and there may be too large a proportion of tail corn. Wheat will again be the best crop of the year.

Although a few showers would have done good to the Turnips, the weather has been excellent for the hoeing and weeding; all is not yet done, and hardly will be before we have to leave off for the harvest. We have to be careful with the horse hoe, for the young plants are easily knocked up. This is not a good sign, and denotes a poor root. A long drought might have very serious consequences.

We have not a great opinion of the outlook for roots generally, and we cannot find a farmer who gives us a good report. Cabbages for next summer must be sown at once if not already in.

Fly is now very troublesome to the sheep. As we have remarked several times before, nothing is more effectual to keep the fly from the wounds than tobacco powder, dredged on from a pepper pot. They will never strike again where it is used.

Early foals had better be weaned at once, especially if the mares are required for carting corn. The milk will be dried up before the mare is wanted for work, and risk of overheating avoided, for a foal is easily thrown amiss when the dam is working hard in hot weather, and there is little gained by postponing weaning until autumn.

PRICES OF BRITISH CORN.—The "Rural World" gives the average prices of British corn per quarter for the week ending July 29th as follows:—Wheat, 25s. 2d.; Barley, 22s. 5d.; Oats, 18s. 2d. The prices for the corresponding week last year were:—Wheat, 36s. 11d.; Barley, 24s. 2d.; Oats, 20s. 11d. The prices for the week ending July 22nd were as follows:—Wheat, 25s. 5d.; Barley, 21s. 10d.; Oats, 18s. The London Flour Millers' Association's official prices of flour per sack for the week ending July 24th were as follows—viz.: White, 26s.; town households, 23s.

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Journal of Horticulture.

THURSDAY, AUGUST 17, 1899.

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SHOWING AND JUDGING GRAPES.

By Mr. D. BUCHANAN, Kippen.

IN dealing with my double subject I do not
propose to go into minute details, but rather
to touch on a few of the outstanding points or
grievances which affect judges and exhibitors alike,
and which have come under my notice in one
capacity or another. Most horticultural shows
have of late greatly improved the classification of
many of their more important exhibits with the
exception of Grapes, with which there is little
or no change. The Grape classes at the Royal
Caledonian Society's autumn Show, with the
exception of an alteration in the number of bunches
required for the collections, are the same to-day as
they were twenty years ago. To my knowledge
only one society has broken off the beaten track of
usage. That society is the go-ahead Shropshire
Horticultural, which is not only giving this year
at Surewsbury the biggest prizes ever offered for
Grapes, but is having these judged for the first
time on the principle that every bunch is to be
judged on its merits as a bunch of Grapes, irre-
spective of variety. The rules and conditions
governing this big prize are not, in my opinion, as
perfect as they might be; they, however, show a
step in the right direction.

One reason why I have chosen this subject for
my paper is that I do not know a more fitting
place than Edinburgh to ventilate the matter,
considering the importance with which Grapes have
always been regarded at neighbouring shows.
Another reason is that I do not see why Edin-
burgh should follow the lead of any society. As
a great admirer and well-wisher of the shows held
in the Waverley Market, I should like to see the
capital of Scotland taking the lead in originality
and improvement in its horticultural shows. No
society is in a better position to do so. It has the
finest place in the kingdom to hold its exhibitions
in. It can command an appreciative public. It
provides more Grape classes than any other society
in the country, and it can count amongst its annual
competitors some of the foremost Grape growers in
the kingdom. For these reasons I venture to

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suggest a few improvements which, if adopted by those societies providing liberal classes for Grapes, would, I am certain, meet with the hearty approval of both judges and exhibitors alike.

As I have least to say about showing Grapes I will commence with this, and the first advice I would give to an exhibitor is, Always bring your best Grapes to a show, and if the awards have not been as much in your favour as you expected, do not talk so loudly about the fine specimens you left at home. Always show for a first prize. Never bring a miserable looking thing in the hope of picking up a third. If these suggestions are adopted, whether you are successful or not you will gain credit by your exhibit. During the last twenty years I have seen staged in the Waverley Market as fine Grapes as any could wish to see, but I have also seen at the same time some of the most miserable looking bunches in important classes, and brought long distances. The first lesson exhibitors have to learn is, the general appearance of a bunch of Grapes that is worthy of a prize. After this lesson has been thoroughly mastered, they might then set about trying to grow them.

Much could be said about the various methods of placing the Grapes on boards and carrying them to their destination, but to enter into particulars would take up too much time. I will just mention a few things to be remembered in this connection, and which may prove useful to the exhibitor. Always take firmly built bunches in preference to loose ones, as the latter get rubbed and damaged where the berries touch, especially if the distance to be carried is considerable. The bunches should be placed at a rather steep angle on the boards, so that the weight of the bunch is more on the stem than the shoulders. Then there is a right and a wrong way to place the boxes in a railway van. A railway carriage moves and shakes sideways, never endways. If the boxes are placed so that the backs of the bunches are either to the engine or end of the train, the side-shaking of the carriage will set the bunches swinging like the pendulum of a clock, causing the side bunches to strike against the sides of the box and otherwise damage them. The safest way to set the boxes is with the backs of the bunches to the sides of the van. We often see coloured paper put on the boards for yellow Grapes. Now I do not think this ever does much good, and sometimes it gives the bunches a greener shade than when white paper or cloth is used. This I consider the best ground for all varieties. One thing, however, is worth remembering, and that is never to place a yellow bunch at the end of a stand; put it between two blacks, and the colour will show up much brighter.

I will now say something about the principle upon which, in my opinion, all Grapes ought to be judged. This is a matter which principally concerns the framers of prize schedules, and for them more than exhibitors or judges my remarks are intended. In connection with prizes for collections of Grapes definite and clearly worded rules and conditions are required, which would be a guide to exhibitors in selecting the varieties to stage, and give the judges some ground to work on, by stating the principle or quality the collection is to be judged for. As it is at present, in collections of, say, four, six, or eight bunches, so many varieties, we constantly find the higher quality Grapes classed against those of inferior flavour, but superior, perhaps, in every other respect. This has been likened by an eminent gardener to pitting a race horse against a cart horse; in such a race the competition would be an unfair one. Besides, it is most difficult to judge such collections, and in many instances no judge, however able, can give satisfaction to himself or anyone else.

At present too much scope is left for the individual tastes of judges. If a judge finds that the family he serves does not like a particular variety, and he does not grow it, it is natural to suppose that he takes a dislike to it himself; and when he finds this variety in a collection he has to judge, it does not, as a rule, find much favour in his eyes.

How often do we hear the remark, "Mr. So-and-so is to be a Judge at such a show; no use in taking anything but the highest flavoured Grapes there?" Some judges may perhaps count too much on size of bunch, berry, or finish, though I think the greatest and most frequent offenders are those who ride this fad of quality to the extreme. I have seen first prizes given to collections of Grapes containing several bunches, every berry of which was beginning to shrivel and the footstalks quite black, owing to their having been over a week cut from the Vine, and doing duty at a previous show; but they were judged by "quality" men, and, being Muscats and Hamburgs, were in their eyes superior to highly finished and fresh-cut specimens of either Alicante or Gros Maroc.

Anyone who watches the staging of an important collection of Grapes will see how keenly the exhibitors themselves criticise the exhibits as soon as they are staged, and one would think they should be as fit to come to a correct decision as the Judges themselves. I have known a collection which was almost unanimously voted to the first place by the exhibitors not getting a prize at all. This was the result of the Judges tasting fine specimens of Alnwick Seedling, which the collection contained. As most growers know, this variety

and some others colour up quickly, and may be perfect as far as appearance goes, though the flavour is not at all developed.

In reference to this point, the Editor of the *Journal of Horticulture*, Mr. John Wright, in his admirable little work on the principles and practice of judging, says:—"If we find, as we do, the heavy cart horse Grapes and the more refined racer types exhibited together, they have to be dealt with. This is a difficulty which must be surmounted. In searching for the best and most equitable way of doing this, we must not overlook the existence of an indisputable concrete fact—namely, that neither late Grapes, late Apples, nor late Pears can be judged by flavour at a summer or early autumn show, but they can be for cultural excellence. A determining factor, then, is, which displays the higher cultural merit for the respective varieties, or which has the fewer faults apart from flavour, which is not yet in some varieties developed, and this from no possible fault of the cultivator."

This is sound common sense. It is no doubt right of societies to encourage the growing of the very best in Grapes, as in everything else, but they should also take into account the fact that for every cwt. of these grown there are probably tons of the more popular cart horse kinds. If the best varieties were to be selected by counting the number of times a particular kind appeared in a winning stand, similar to what is done with Chrysanthemums, Roses, or Dahlias, I should not be surprised if the variety which came at the top of the list were the heavy cart horse Gros Maroc, one of the worst flavoured Grapes in cultivation. However, my point is that these two sections should be classed by themselves as far as possible, and judged on their individual merits, and not left as it is at present to the individual tastes of judges.

Some years ago at the Royal Caledonian Society's Autumn Show, in the class for one bunch of white other than Muscat of Alexandria, the variety, or rather the bunch, which received the first prize was named Bowood Muscat. Now, as every judge should know, Bowood Muscat and Muscat of Alexandria are not distinct, but one and the same variety, and are so classified by the Royal Horticultural Society. But that does not matter; the Judges in this case were quite justified in following their own opinion, as the schedule left them a free hand. At the very next Show however, I think it was in the Waverley Market, an exhibitor was disqualified for having Bowood Muscat and Muscat of Alexandria in his stand of four bunches, the Judges in this instance not considering them distinct varieties. This, all will admit, is very unfair to exhibitors. All the so-called varieties of Muscat of Alexandria, as well as Gros Maroc and Cooper's Black, the various strains of Hamburgs, and a few others ought to be taken in hand by the framers of schedules; and whether they follow the classification of the Royal Horticultural Society or not, they should distinctly state in the schedule how these varieties are to stand for the purposes of their exhibition. This would be a guide to the exhibitor, and simplify matters for the judges.

I will now suggest a few alterations which if adopted would, I am certain, give greater general satisfaction. We will take the two collections in the Royal Caledonian Society's schedule as types of many others throughout the country. These are worded at present as "Six bunches Grapes, not less than three varieties," and "Four bunches, distinct varieties." Now, one of these collections ought to be shown and judged for quality or flavour and the other for appearance. I would say that the four bunches be the quality class. These might be scheduled to read, "Four bunches, distinct varieties, quality to be the first consideration," or a list of, say, eight or a dozen well-known high-flavoured varieties might be given, the bunches to be selected from this list. But whichever of these two ways were adopted the quality or flavour not to be determined by tasting, as this, while men's tastes differ so much, is a most unsatisfactory way. Besides, it would open the door to miserable-looking bunches with no cultural merit to recommend them, for very often a bunch of small and shrivelled berries possesses a very high flavour. The quality would be determined by the judges knowing the varieties.

For what is at present the six bunch class I would suggest, "For the best six bunches of Grapes, not less than four varieties, superior cultivation and finish to be the first consideration." This would still allow the high quality Grapes to compete in the class, as when well grown and highly finished samples of, say, Madresfield Court or Muscat of Alexandria are seen they have few, if any, equals, even for appearance; but it would insure that the second and third-rate Grapes would be at no disadvantage through their inferior flavour. The exhibitor, then, who showed the highest cultural skill in tabling six of the handsomest bunches with fewest faults would receive the first prize, as justly entitled to, and which he seldom gets by the present rules—or rather, the present want of rules.

It will be noticed that I mention not less than four varieties, instead of not less than three, as it is at present. The four bunch collection is more difficult to get up than the six. Besides, as it is at present, an exhibitor who happens to have one variety particularly fine, as is often the case, can stage four bunches of this variety; the other two may be only middling samples; and if the four bunches

are, say, Muscat of Alexandria, he is almost certain to come off with first honours, which in such a case would be gained on the merits of one variety, whereas the intention of the collection is for the general excellence of a specified number of varieties. A better way would be six bunches, three varieties, two bunches of each; or, seeing that there is already a four bunch collection, distinct varieties, make it eight bunches, four varieties.

I would further suggest that these collections should be judged by points, the several marks gained to be displayed on the exhibits after the awards are made. This is of importance as an educational lesson to young gardeners and others, and causes a keener interest to be taken in the exhibits by the public generally. Besides, by the point method, the judges are compelled to look minutely into the merits and demerits of each individual bunch forming the collection.

When the point method is adopted the maximum number allowed for the respective varieties should never be left to the judges to determine, but should be clearly stated in the schedule. For instance, ten points might be allowed for Muscat of Alexandria, nine for a number of other high-class varieties, such as Madresfield Court and Muscat Hamburgh, while eight could be the maximum for others.

One word of advice I venture to give in reference to the selection of judges. Some may think this is not needed, as societies surely select the best men. This is not always the case. In too many instances adjudicators are selected more for the position they hold than for any individual merit or ability they have shown in the particular branch in which they are asked to adjudicate. As well ask a man who was never known to grow a creditable Chrysanthemum bloom to take the place of Mr. Molyneux and judge single-handed all the cut flowers at the November show, as to appoint a judge for the Grape classes who was never known to grow even a creditable crop of Grapes. Such a one might be a good all-round man, and a fine fellow, but to successfully judge a particular branch you must possess an intimate knowledge of that branch, and this can be gained only by practical experience.

[This admirable paper was read at Edinburgh by the author. It contains so many good hints that we give it the prominence that it merits. The guidance suggested for judging a "six-bunch class" at Edinburgh ("superior cultivation and finish to be the first consideration") is precisely the same as announced in the schedule for the twelve-bunch class in the £100 competition at Shrewsbury, but with the addition in the greater class of "for the respective varieties," as it is obviously easier to cultivate and finish, say, Gros Maroc than Mrs. Pince. The Judges, it will be admitted, are practical men of the first standing among British gardeners.]

POPULAR GRAPES.

THE recent granting of a first-class certificate to a new black Grape, and the nearness of the great Grape competition at Shrewsbury—the most interesting, and probably most exciting of the century—naturally leads to wonder as to the varieties most likely to be there exhibited, and to consideration of the general popularity or otherwise of certificated Grapes.

Probably of the many that have secured the award of a first class certificate during the past fifty years not more than one-tenth if so many are now regarded as first class or standard varieties. The late Dr. Hogg gives in the "Fruit Manual" a list of 144 varieties as distinct, and that list does not include all, as for instance, Appley Towers and Lady Hutt are not included. If we take the number of varieties to be in round numbers 150, think how few of these enjoy the high position of being standard varieties.

Reflection on the fugitive popularity enjoyed by so many varieties that have received certificates should make us cautious in granting such honours in the future. If it were a rule that, tentatively only, awards of merit be granted to all apparently new fruits, certificates being given only after several years' trial had proved established excellence, much that eventuated in misdirection might be saved to the public at large. It is one of the misfortunes incidental to making awards of this nature that, like granting an excise license to a house, its value commercially is at once greatly increased. As a result prices are greatly enhanced, and the public purchases largely of what is thus recommended; too often, as the history of Grapes show, only to be in the end disappointed.

It is very well known that the making of awards so late that the thing in question has got freely into cultivation benefits no trader, hence every effort is made to secure the honour ere any real or general trial of the product can have taken place. Talk about a certain place being paved with good intentions; what sort of habitation should that be papered with certificates of merit given to things that have in the end proved not to be worth the cardboard? Now, these reflections were forced upon me when thinking of the great Grape competition so soon to take place at Shrewsbury.

Unfortunately the matter has come into my mind too late, or I would have suggested to the Editor that he invite readers to send in

lists of twelve Grapes from which those shown in the various exhibits in the great class at Shrewsbury will probably be selected. For, were this done, most forcibly would be demonstrated the comparatively narrow range which our most popular Grapes cover, and how few others are generally grown.

The following fifteen will, I think, take all that may be exhibited, or at least nearly so. Black Hamburgh, Muscat Hamburgh, Madresfield Court, Gros Maroc, Gros Colman, Mrs. Pince, Alicante, Gros Guillaume, Lady Downe's, Alnwick Seedling, Buckland Sweetwater, Foeter's Seedling, Mrs. Pearson, Muscat of Alexandria, and Canon Hall Muscat.—A. D.



WALTON GRANGE.

THE number of enthusiastic amateur Orchid growers in the provinces is very great, and, what is more, the ranks are swelling yearly. Some of these specialise, while others devote their energy to all kinds of Orchids. Many of these cultivators are in the forefront as orchidists, but simply from the fact that they do not reside in or near London not nearly so much is heard of them as with those in the metropolitan district. That their collections are rich in quality has been proved time after time by the examples they have placed before the Royal Horticultural Society, but it cannot be expected that they will become fortnightly attendants with large groups when the trouble involved in the transportation of valuable plants is borne in mind. They therefore content themselves with frequent personal visits and bring a plant or two when they have one in flower that their experience tells them is of super-excellence. Then their exhibits are appreciated perhaps more than would be the case if they were regular contributors to the displays at the Drill Hall.

Ranking with those of highest repute is Mr. W. Thompson, of Walton Grange, Stone, Staffordshire, whose occasional plants are always welcomed by London orchidists. As a matter of fact, it was the deep interest taken in the plants sent to the Drill Hall now and again that induced me to arrange for a visit to Walton Grange to see the plants at home, and thus ascertain whether they were equal collectively to the individuals sent to London. The examples that found their way to the metropolis were always in such splendid condition as to prove the fact that not only did Mr. W. Stevens know a good Orchid flower when he saw one, but that he was also thoroughly conversant with the requirements of the plants in his charge. They carried flowers of striking beauty; the colour and the substance of the foliage and the pseudo-bulbs demonstrated excellent health—indeed, they were in such condition as would encourage their grower to anticipate a good spike of flowers, though he could not, of course, insure that every bloom that expanded would stand high above its compeers in some desirable respect. There was no trouble in arranging for a visit, and one day early in May found the writer journeying from London to Stone for the purpose just avowed.

As was stated in the opening paragraph some of the provincial Orchid growers specialise, while others cultivate a general collection, and it may now be said that Mr. Thompson must be included in the first named section. The pride of the Walton Grange Orchids is, beyond a doubt, the *Odontoglossums*, and I think I am well within the mark in saying that of these most beautiful flowers the collection would be placed in the first three if a census were taken. These are not cultivated to the exclusion of all others, but the major portion of the space is accorded to them, and the collection, by constant judicious accessions, is gradually being brought to a remarkable standard. Sometimes, where a speciality is made in this way, the few other Orchids that may be found are relegated to out of the way corners, and are almost totally ignored by the grower, but this is not done here, as Mr. Stevens is a thorough gardener, inasmuch as everything he grows he endeavours to produce thoroughly well, and he succeeds admirably. The *Cattleyas*, *Dendrobiums*, *Laelias*, and other Orchids, with Grapes and Peaches under glass, and fruits and vegetables out of doors, all testify to the careful consideration that is given to their requirements, and amply repay, in the form of flowers, fruits or other products, as the case may be. But our mission was to the Orchid department, so to this we must confine our attention now.

The garden in which the houses are situated abuts on the main road—in fact, the door in the street wall opens immediately into one of the structures—and is not of very great extent, but the houses are numerous and follow the whole of the four walls right round

with others in places in the open, and one without the walls near Mr. Thompson's residence, this being devoted to the *Dendrobium*. Almost all the houses contain *Orchids* in large numbers, and the plants vary in size from the seedlings not yet removed to separate receptacles to specimens of sufficient size and strength to produce superb spikes of flowers. By the courtesy of Messrs. J. S. Virtue & Co., Ltd., we are enabled to reproduce from the "Flower Growers' Guide" an illustration (fig. 31) of the flowering house at Walton Grange, which was prepared from a photograph taken by Mr. Stevens shortly after this visit was paid. It shows an abundance of spikes of *Miltonias* with *Odontoglossums* interspersed amongst them. It is a beautiful picture, though it does not do justice to the display as seen in the life. That the flowers are set off by the Ferns, both on and beneath the stage, no one will be prepared to dispute, and considering how materially such additions aid the general effect it seems a pity the system does not become practically universal.

In dealing with *Odontoglossums* there is no apparent effort to adhere to one particular species, but the endeavour seems rather to have been to make the collection thoroughly representative of the



FIG. 30.—VANDA KIMBALLIANA.

genus as a whole. Some had ceased to flower, others were just at their best, and still more had still to come when this visit was paid, but of those that will subsequently be mentioned the majority were at their best at that moment. It is not proposed to give a house to house description, but to take first the *Odontoglossums*, irrespective of the structure that contained them, and to refer to the remainder in a similar manner. An *Orchid* that never fails to attract attention when seen in first-rate form is *O. citrosimum*. The long pendulous spikes of fragrant flowers have a very chaste appearance, but they are all too seldom seen in the condition of those at Walton Grange. Vastly different in colour and structure are the forms of triumphans and Halli, but they are no less beautiful. These are numerously represented by handsome varieties. *O. pulchellum*, *Rossi majus*, *maculatum*, *nebulosum*, and *nebulosum album* demand more than a passing reference, but this, unfortunately, cannot be accorded to them at the present time. It must suffice to say that they were in the very best of condition, and were bravely doing their share towards the charming display.

O. luteo-purpureum, at any rate in some of its best forms, is one of the handsomest *Orchids* in cultivation, and the immense spikes of excellent flowers on the plant shown by Mr. Stevens at the last Temple Show are not likely soon to be obliterated from the mind. A grand form has been named after Mr. Thompson. Of a chaster type of beauty is *O. Coradinei*, of which more than one excellent variety was observed, and the same may be said of *Pescatorei*. This is one of the most charming of *Odontoglossums*, particularly in some of the rarer varieties. A pure white one, save for the yellow on the lip, at Walton was very attractive. Of totally different style is *O. grande*, whose magnificent flowers are certain to elicit the admiration of everyone. Distinct again from either of those previously enumerated is *O. cordatum*, which, though an old species, is still worthy of its place in every collection. Forms of *O. scepterum* are comparatively numerous at Walton Grange, and some of the flowers are really of extraordinary beauty. There is an exquisite delicacy in the colouration that appeals forcibly to all observers, especially in such a variety as *O. s. Stevensi*.

But let us now turn to the most popular of all the *Odontoglossums*—namely, the varieties of *crispum*. These, it is superfluous to say, are represented by some of the rarest and best forms in cultivation, and so admirably are they grown that they produce flowers of

superlative excellence both in form and substance. The colours vary from white through those that are abundantly spotted to others which have few spots or large blotches of colour on sepals, petals, or lip. Had there been time to take notes and descriptions only of the *élite*, there would have been material for a long article, but this could not be, and a few names were jotted down in passing somewhat too hurriedly through the collection. For example, there were *O. c. Vuylstekeanum*, *Ruckerianum*, *Thompsonianum*, *Cappartianum*, *W. Thompson*, and scores of others that are equally, and some, perhaps, more deserving of enumeration. *O. Adriana*, of which there are about half a score of varieties, all well above the average of excellence, were observed, as were forms of *excellens*. Both of these types are given special attention by Mr. Thompson, and only the choicest are retained; indeed this is the governing principle throughout. Of almost all the *Odontoglossums* that have been named there are seedlings, particularly of *crispum*, of which with the unflowered imported stock there must be thousands, and doubtless of these more will be heard in the future.

At the warmer end of one of the cool houses *Vanda Kimballiana* (fig. 30) thrives in splendid style, and its lovely flowers delight everyone who sees them. The more imposing *V. coerules* also finds a congenial spot. At the end of another structure was a brilliant picture, such as I for one had not seen before. It was composed of *Cochlidia Noezliana* in a bank of Ferns. But what spikes and flowers! They were superb, and never previously had I thoroughly realised the true beauty of this *Orchid*; compared with the specimens sometimes seen it is like a plant from another sphere. *Ada aurantiaca* was also in fine form, as were the *Dendrobiums*. The one that more particularly attracted attention on this occasion was *Bensonias*, whose flowers were chaste beautiful. In addition to all the better known *Dendrobes* Mr. Thompson is the proud possessor of the true white nobile, of which Mr. Stevens informed me there were only four plants in the country; unfortunately I did not see it in flower. It was in the *Dendrobium* house that healthy plants of *Eucharis Stevensi* were noted. This is, as is now generally acknowledged, one of the best *Eucharis* in cultivation. It was illustrated in the *Journal of Horticulture* for March 21st, 1895, page 253.

Then, too, there were many splendid *Cattleyas* in flower, and amongst them all some plants of *C. Lawrenceana* stood out in striking beauty. They were flowering with exceptional freedom, and were peculiarly rich in colour. Amongst others either in or out of bloom were *C. Mantini superba*, *intermedia alba*, *Skinneri alba*, *Wagneri*, and *Warneri*, with forms of *Trianae*, *Schröders*, and *Mendell*, all of which were in perfect health. So, too, were several grand plants of *Laelia purpurata*, *Perrini alba*, and *L. anceps*, with *Laelio-Cattleyas Hippolyta* and *Nyssa superba*, and with these we must draw to a close.

Endeavour has been made to note some of the most striking *Orchids* in this great collection, but doubtless many have been omitted. These, however, must stand until the good fortune of a second visit to Walton Grange presents itself, when it is certain that more than sufficient will be found to form the basis of further remarks in the *Journal* pages.—H. J. WRIGHT.

THE IRIS.

(Concluded from page 118.)

BESIDES the well-known *Iris*s already referred to there is another class which has come lately to the front, and which bears the peculiar name of *Onocycolus*. This has proved too much for some growers, who have given this section the name of "Cushion" *Iris*s. They are extremely difficult to grow, and I must confess that hitherto I have failed to bloom any of the bulbs. The gardener of a neighbour of mine who tried to grow the bulbs at the same time has also failed. As these *Iris* are dear to buy, I have not persevered with them, so I hope some practical men will give their experience in growing them.

With the exception of the *Kämpferi*, and some may say not even with this exception, they are the most beautiful *Iris*s in existence. In the south of France the best known variety of this class is *Iris Susiana*, and I believe also the type bears a magnificent flower of a very dark maroon colour with black spots. In Dorsetshire I bloomed it well, but only for one year, as the effort appeared to kill the bulb.

Mr. Barr, one of the largest cultivators of the *Iris*, gives the following advice as to the cultivation of these beautiful varieties:—"The roots should be planted in November (the tops not more than 2 inches below the surface) in a light, rich, well-drained soil, and covered with 3 or 4 inches of Wheat straw, or, better still, marsh Reeds, which should be removed in March. Immediately these *Iris*s have done flowering place over the plants a light, or panes of glass elevated 18 inches above the ground, so as to admit at the sides a free entry of air, and at the same time to keep off rain till October. The object desired is to thoroughly ripen the roots and prevent their start-

ing into growth before the spring. The covering in winter is to keep off heavy rains and discourage a premature growth. If this fails it will be a good plan to lift the bulbs immediately they have done flowering, and keep them on a dry shelf or in perfectly dry sand till time of planting." Mr. Barr adds, "The great beauty of these Irises, especially when grown in masses, will fully repay the special treatment they require."

The most beautiful variety is undoubtedly Gatsi, thus described by Mr. Barr:—"A hardy robust species of the Susiana type, but with larger flowers, of a beautiful satiny creamy white, tinged rose, delicately veined and minutely spotted silvery grey. It flowers in June, and the flower is about 2½ feet high."

We come now to a large and interesting section called the Juno group, of which the well-known *I. persica*, or the Persian Iris, may be said to be the type. The peculiarity of these is that the bulb has several fleshy coats, and the ripe bulb possesses a number of thick store roots. The leaves are broader and more numerous than in the Xiphion group, and the flower has a special form. *Iris persica* came from South Persia, and is a striking and beautiful flower with a deep violet, almost black, patch on the fall, forming a pleasing contrast to the white or bluish

open, in prepared beds, and left there for three or four years, when the seedlings should be moved. The seed of *I. alata* and *persica* must be sown under protection.

As to general rules of cultivation. What a bulbous Iris wants above all things is a sunny situation in a soil not over-light, and yet not heavy, free from roots of Conifers or shrubs. The bearded, or *Iris germanica*, varieties, will do in half shade better than in the open.

And now I have nearly brought this paper to a conclusion. That it is imperfect I know; that it only touches the fringe of a beautiful flower, that it leaves very many important subjects connected with the flower untreated, of this I am fully aware. Still, it is an honest attempt at dealing with a beautiful gift of God, and I can assure you it has entailed upon me great labour. I have bought every book that I can hear of that treats of the Iris. I have not only bought it, but have carefully read and marked every passage in it that I thought would be useful to me, and I have devoted many hours to the task of comparing the various authorities. I have written to leading growers of the Iris, and have asked for their advice and their help. I have, in a word, taken every step I could think of to make my paper interesting, if not valuable. If I have in any way succeeded in



FIG. 31.—AN ORCHID HOUSE AT WALTON GRANGE.

green of the rest of the flower. It flowers in March, and generally has only one bloom on the stem, though occasionally it has two or even three. This bulb, which is considered by some not quite hardy, will stand a much severer frost than any we have, but it is a little difficult to grow on account of its requiring to be ripened by heat and drought when it has done growing. Sandy peat is recommended as the best soil, although Professor Foster's experience tends to employing loam. In Palestine is found *I. palestina*, which bulb is, however, next to useless in our gardens.

Another most beautiful Iris, which comes from Bokhara, is *I. rosenbachiana*, which belongs to the Juno group, though slightly different from it. The plant sends up its bloom whilst the leaves are very short, or, indeed, before they appear, partaking in this way much after the growth of the autumn *Colchicum*. The dominant colour is a combination of purple, yellow, and white; in some the purple is a red purple, passing into a rich crimson; in others the purple is a blue purple, passing into a dull lavender. The cultivation is much the same as that of *Iris caucasica* major, but the bulb is not quite so robust, and prefers a rather lighter soil. Next comes a beautiful Iris, still belonging to the Juno group, *I. alata*, one of the earliest to bloom. The prevailing colour is lilac or blue, the edges being lacinated or fringed.

Juno Irises produce seeds very freely; which may be sown in the

interesting or instructing you with regard to this flower, I hope that you will repay me by cultivating it more largely and carefully than before. That is the reward that an essayist alone looks for when he writes upon a flower that he loves.

Once again then is Iris, the messenger, sent upon a journey, but this time she is no longer a heathen messenger employed in taking cruel orders to those who have earned the envy or antipathy of a mythological goddess. It is no longer to the Greeks fighting before the historical and mythical walls of Troy that she comes. It is to the simple and the industrious cultivators of the garden, the honest horticulturist. It is no longer a message of hate or of enmity that she brings. It is one of love and peace. It is no longer as a messenger that she presents herself to us, but as a lovely flower.

"Behold me," she seems to address each one of us. "Behold me; look at me. Am I not lovely? What element that a flower can have do not I possess? Fragrance, beauty and diversity of colour, endless variety of form, and good health and a fine constitution. I come to you from all lands. From the sunny Mediterranean; from England, your home; across the Channel in France, Italy, and Spain; in Algeria, in Tunis, in Morocco, right across the Sahara of Africa; in Asia, in the Punjab, in the Caucasus, in Japan, and China. Wherever missionaries preach the Gospel of Christ, there too may I be found. From all these lands explorers and botanists have collected

me, and brought me to your very doors. In England you may have plants and bulbs that have been collected from all these lands. I am not dear to buy; I am not costly or difficult to cultivate. For a few pence the poor cottager may possess me, and when once I am established I never leave his garden. No costly stove is wanted for me, no rich manure from the coast of Peru. Only a little soil, only a little of God's sunshine, only a little love and a little care—that is all I ask. Plant me where the sun can shine on me most of the day, protect me if you can from the heavy rains of summer, give me rest when my flowering season is over, and I will repay you by giving you year by year some of the sweetest flowers that bloom on God's earth."

—J. B. M. CAMM.



CHRYSANTHEMUMS AT REIGATE.

So far as I have seen several fine collections of Chrysanthemums, I have not observed that these plants seem to have suffered in any way from the season. Because grown in pots and kept well watered, with plenty of light and air, they appear to care little for the heat, and certainly the wood may be unusually well matured, for all of it has now assumed that high coloured tint which shows that it is ripe, and that as a result blooming may be accelerated, perhaps a week or so, when the flowering season arrives.

A few days since I was looking over the fine collection grown by Mr. C. J. Salter at Woodhatch for T. B. Haywood, Esq. The plants were all in the most perfect health, and I heard not a word as to the rust bogey. The plants there were not in such large pots as is commonly seen; certainly they seem to be an inch less in diameter. So far, too, very little of any description of stimulant has been given them. Mr. Salter likes to see the buds fairly in evidence before applying manure, dry or liquid. Too much haste in applying manures brings so many otherwise fine plants to grief. No doubt growers get over-persuaded to try this or that wonderful stimulant, and begin far too early in the season.

The ordinarily tall varieties seem almost taller than usual this season, but that may, of course, be fancy. It is, however, satisfactory to find that raisers seem working to obtain dwarf habits, and there is no more striking example of that than is seen in Mrs. Barkley, which, whilst not more than 2 feet 9 inches from the pot, is wonderfully short jointed and finely leaved. I saw this recently in Mr. Hunt's great collection at Ashted Park also showing just the same character. Judging by what so far has been seen, there seems to be every probability that the Surrey growers will not be lacking in ability to compete at shows during the autumn.—WANDERER.

PEACHES AND NECTARINES AS STANDARDS.

I READ with interest the notes by "W. S., Wils," on page 53, and as I am at present in charge of the Peach house referred to, it may be of interest to others of your readers for me to make a few remarks. The house in question was built some twenty-six years ago, and planted with the best known Peaches and Nectarines. After a lapse of eight years it was found necessary to heat this structure with hot-water pipes, and at the same time an addition was built at right angles to the main house, and facing south, giving the building a much better appearance. Two of the rows of trees in the centre bed referred to by "W. S." were removed some years ago, and only the centre row retained, this covering the whole space, and nearly reaches the top of the house. There is no doubt that more fruits can be produced on good standard trees than by any other system of training. Last year I gathered nearly 200 fruits from one tree, and a good percentage of these were as well coloured as those on trees trained on the trellis at each side of the house. The Peach that does best here on the pyramid is Royal George, following which come Noblesse and Princess of Wales. Standard Nectarines do not colour so well as those grown on the trellis, but in other respects there is no fault to find with them both as to quantity and quality of the fruits.

Last autumn the house was put in thorough repair, both inside and out, and I am sorry to say a few of the best trees were spoiled, and had to be removed. When the man was spoken to about the damage done he coolly asked, "Won't they grow again?" What could anyone say to that? It was a true case of "ignorance being bliss." I mention this, as it may serve to keep others from employing men who are not accustomed to painting fruit houses.

The method of pruning standard trees here is simple. In June we

cut back all growths to about 4 inches, though some may be allowed a little longer. In this respect we are governed by the strength of the shoots. The second break produces the fruiting wood for the following season's crop. No camel's-hair brush is used for distributing the pollen; a mere "tap" to each tree at noon on a sunny day is all they get, and they never fail to produce good crops.

The greatest pest we have to contend with is the ant. They are so partial to Lord Napier Nectarine, that for the past two years I have not pulled one whole fruit. I was recommended to try Keating's powder to prevent them getting up the stem of the tree, but to no purpose. They shifted their run a few yards, went up one of the main ribs of the house and along the wires to finish their work of destruction. I have no doubt Keating's powder could be used in smaller houses with success.—R. STEWART, *Sneyl Park*.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—AUGUST 15TH.

ONCE again it has to be recorded that the exhibits on Tuesday were more numerous than could be accommodated in the Drill Hall without the undue crowding which so prejudices the general effect. Every table was full to overflowing, and some of the products had to find a less conspicuous place beneath the stages. The floral exhibits were splendid, and comprised practically all types of seasonable flowers. Fruit, too, was admirably shown; but Orchids were comparatively scarce, as is usually the case at this season of the year.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Messrs. J. Cheal, J. H. Veitch, M. Gleeson, W. Pope, A. Dean, S. Mortimer, W. Farr, J. W. Bates, W. J. Empson, F. Q. Lane, G. Reynolds, G. Norman, and G. Bunyard.

Messrs. J. Veitch & Sons were represented in the fruit section by a collection of Apples and Pears, with Morello Cherries, La Versaille Red Currants, and Lee's Prolific Black Currants, with a Raspberry-Blackberry hybrid. The best of the Apples were Lord Grosvenor, Ecklinville Seedling, White Transparent, Red Astrachan, Stirling Castle, Dutch Codlin, Potts' Seedling, Devonshire Quarrenden, Duchess of Oldenburg, Beauty of Bath, Lord Suffield, Domino, and Mr. Gladstone (silver Knightian medal). Messrs. Bunyard & Co., Maidstone, showed some grand Apples, including Gold Medal, Beauty of Bath, Grenadier, Mr. Gladstone, Potts' Seedling, Lady Sudeley, Lord Suffield, Peter the Great, Lord Grosvenor, Duchess of Oldenburg, The Queen, Worcester Pearmain, Ringer, Ecklinville Seedling, Red Quarrenden, and Irish Peach (silver Knightian medal).

Mr. Walters, gardener to Lord Gerrard, Eastwell Park, Ashford, showed Black Hamburg and Foster's Seedling Grapes, Peaches, Nectarines, Melons, all in most creditable condition (silver Knightian medal). Messrs. S. Spooner & Son, Hounslow, contributed some Apples in capital condition, and representing all the varieties now in season (silver Banksian medal). Mr. J. Miller, gardener to Lord Foley, Esher, was represented by Apples, Pears, Cherries, Melons, Peaches, Nectarines, Plums, and Gooseberries (silver Knightian medal). Mr. S. C. Lamb sent grand Oranges, and other exhibitors showed Currants, Apples, and Pears.

A most excellent collection of fruit was shown by Mr. G. Kelf, gardener to Mrs. Abbott, Regent's Park. It comprised good Buckland Sweetwater and Black Hamburg Grapes, Perfection and other Tomatoes, with Melons, Plums, Apples, and handsome Barrington Peaches (silver-gilt Banksian medal). Mr. A. H. Gibson, gardener to J. Rickett, Esq., Pinner, sent Tomato A. H. Gibson, while Mr. E. S. Wiles, gardener to the Hon. E. Hubbard, Down, Kent, sent three Melons.

Messrs. J. Veitch & Sons exhibited three dwarf Beans, named respectively Veitch's Progress, Early Wonder, and Veitch's Hybrid. The latter resulted from a cross between the Scarlet Runner and a dwarf French Bean. It grows about 15 inches high, and is a splendid cropper.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. H. B. May, R. Dean, J. H. Fitt, W. Howe, J. T. McLeod, C. E. Pearson, J. Walker, E. H. Jenkins, H. J. Cutbush, E. T. Cook, H. Turner, C. T. Drury, G. Paul, H. S. Leonard, and J. Fraser (Kew).

Messrs. W. Paul & Son, Waltham Cross, staged one of the most attractive exhibits in the Show. The baskets of Phloxes and Roses constituted the chief display; in the former were Meteor, Etna, Faust, Fiancée, and Iris—all very fine varieties. The Roses were excellent for the season: Souvenir de Catherine Guillot, Empress Alexandra of Russia, Maréchal Niel (splendid blooms from the open air), Duke of York, and White Maman Cochet (silver Flora medal). Messrs. Jas. Veitch & Sons, Ltd., Chelsea, staged a capital display of Pentstemons, in which the colours were bright and varied. The same firm also exhibited some specimen trees, which included a grand branch of Clerodendron trichotomum, covered with its sweetly scented flowers; Clematis Davidiana, with its pale blue flowers; the variegated Vine, Vitis heterophylla variegata; and Andromeda arborea.

A group of plants was arranged by Purnell Purnell, Esq., Streatham Hill, consisting of Begonias both double and single, Fuchsias, in which the Countess of Aberdeen was conspicuous, Ferns, Palms, and Crotons in variety (bronze Banksian medal). From Messrs. T. S. Ware, Ltd., Tottenham, came a display of Cactus and Pompon Dahlias, with a general display of hardy flowers. The best Dahlias in the Cactus section were Britannia, Starfish, Capetan, Mrs. Turner, and Mrs. W. Noble. The Pampoms were bright and effective. Also a display of single and

double Begonias of their well-known strain (silver Banksian medal). Mr. S. Mortimer, Rowledge, Farnham, opened the Dahlia season with a fine display, composed of sprays of the Cactus section, and the orthodox Shows and Fancies. The Cactus were represented by Starfish, Mary Service, Ruby, Britannia, Arachne, Lucina, and Viscountess Sherbrooke. The most prominent of the Show and Fancy varieties were Duke of Fife, Harry Keith, Gaiety, J. R. Tranter, R. T. Rawlings, J. T. West, Jas. Vick, and John Walker (silver Flora medal).

Messrs. Barr & Sons, Covent Garden, contributed a display of hardy flowers. The Phloxes were particularly noticeable. The varieties Epopee, Imandi, Coquelicot, and Grevin were excellent, while the Gladioli were well represented, as were also Lilliums, Eryngiums, Pentstemons, and Crinum. Messrs. J. Cheal & Sons, Crawley, staged a collection of Cactus Dahlias, in which Countess of Lonsdale, Viscountess Sherbrooke, Britannia, Exquisite, and Fusilier were conspicuous. Messrs. Webb and Brand, Saffron Walden, contributed a novel display in a collection of double Hollyhocks. They were fine flowers, with bright fresh colours. The best varieties were Golden Drop, Orid, alba superba, Victor, Alfred Chater, and Oliver Chater (silver Banksian medal). Messrs. Kelway, Langport, occupied a table the entire length of the hall with a display of Gladioli. Considering the season the spikes were good. The chief forms were St. Gation, Paladore, Joseph Broom, Gallia, The Sirdar, Lico, Chopin, Mrs. Foster, and Prince Edward of Saxe Weimar (silver Flora medal).

A fine display of Phloxes was staged by Messrs. Paul & Son, Cheshunt; they were arranged with Statice and Gypsophila in sprays. The best varieties were Jocelyn, Pluto, Coquelicot, Iris, Clandon, Evenement, and Faust (silver Banksian medal). Ferns were staged by Messrs. J. Hill & Son, Lower Edmonton, consisting of a collection of Adiantums, in sixty species and varieties. The display was most effective, and made a pleasing change to the other exhibits (silver Flora medal). Mr. G. Reynolds, gardener to Leopold de Rothschild, Esq., Gunnersbury Park, Acton, staged a basket of Carnation Mrs. L. de Rothschild, a bright rose variety with good petal, but unfortunately scentless.

Messrs. J. Laing & Sons, Forest Hill, arranged a group of Caladiums interspersed with Ferns and Palms. The best plants were Alexander III, Le Grand Succes, John Laing, Mona Chater, and Orphée (silver Flora medal). An excellent group of plants was arranged by Mr. G. Kelf, gardener to Mrs. Abbott, South Villa, Regent's Park. It was composed of large Palms, which formed an effective background, while the Crotons, Dracenas, Caladiums, Pandanus and Ferns, formed the chief foliage plants. The flowering section was composed mainly of an excellent strain of Celosias and Lilliums. It was a splendid group, worthy of a place in any exhibition (silver-gilt Flora medal). Messrs. R. Wallace & Co., Colechester, staged an extensive display of hardy flowers. The Montbretias elegans, Pottsi grandiflora, and Gerbe d'Or, with splendens, formed a fine feature. Lilliums were represented by L. auratum platyphyllum, L. a. rubro-vittatum, and L. a. Wittel. Gladioli were also greatly in evidence, the varieties Cardinal and Deuil de Carnot (bronze Banksian medal).

Mr. H. B. May, Lower Edmonton, again exhibited grand plants of the new Campanula, which is now named C. isophylla Mayi; the plants were literally masses of flower, while the groundwork of Ferns tended to make them more attractive still (silver Banksian medal). Messrs. Hugh Low & Co., Enfield, contributed plants of Acer californica aurea in capital form. Messrs. J. Burrell & Co., Cambridge, exhibited a box of new seedling Cactus Dahlias in sprays. The most prominent were Ajax, Antler, Whirlwind, Sylph, and Esmeralda. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, staged a pretty display of double and single Begonias. Messrs. H. Cannell & Sons, Swanley, exhibited some specimens of their Nemesis compacta alba, a beautiful white annual, and Centaurea americana alba, a beautiful double form.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, J. G. Fowler, W. H. Protheroe, J. Douglas, E. Hill, A. Outram, F. J. Thorne, W. H. Young, H. J. Chapman, A. H. Smee, H. Ballantine, H. M. Pollett, de Barri Crawshaw, and T. B. Haywood.

There was only one group of Orchids, and this came from Messrs. H. Low & Co., Bush Hill Park, Enfield. It was not very large, but bright and attractive, with flowers of good quality. The arrangement was effective. Amongst the most conspicuous plants were Vanda acerulea, V. Charlesworthi, Cattleya Dowiana, C. Gaskelliana pallida, C. Harrisoni, C. Gaskelliana, Odontoglossum Pescatorei, and a few others (silver Flora medal). Mr. G. Norman, gardener to the Marquis of Salisbury, Hatfield, sent a splendid plant of Aërides Sanderiana carrying four racemes. Mr. W. H. Young, Orchid grower to Sir Fred. Wigan, Bart., East Sheen, contributed Cattleya altanta, C. Acklandia nigrescens, C. Whitei, Wigan's var., and Lælio-Cattleya Aurora. De Barri Crawshaw, Esq., Sevenoaks, showed Odontoglossum Uro-Skinneri Crawshayanum, O. crispum Trinani, and O. c. Miss F. M. Bovill; while Mons. Jules Hye staged Cypripedium Masserianum.

Mr. E. Hill, gardener to Lord Rothschild, Tring Park, contributed Schomburgkia Lyonsi and Stanropsis lisochiloides; W. Macdonald, Esq., Pitlochry, a hybrid Cypripedium; Mr. M. Watts, gardener to C. E. Chrimes, Esq., Rotherham, sent Cattleya Hardyana; Mrs. C. E. Chrimes and the Rev. F. Paynter, Guildford, showed Cattleya crispata and Warneri, C. Gaskelliana virginialis, C. Harrisoni violacea, and Lælio-Cattleya Henry Greenwood.

CERTIFICATES AND AWARDS OF MERIT.

Apple Early Victoria (J. W. Cross).—Closely resembles Lord Grosvenor, than which it is perhaps brighter green (award of merit).

Cattleya Whitei, Wigan's variety (W. H. Young).—This is from a cross

between C. Warneri and C. Schilleriana. It is a lovely flower of which purple rose is the prevailing colour. This is intense in both sepals, petals, and lip (award of merit).

Centaurea americana alba (H. Cannell & Son).—An annual double creamy white form of striking beauty (award of merit).

Cupressus Lawsoniana Wisseli (J. Veitch & Sons).—An elegant habitted plant. The bright green foliage has a peculiar glaucous shade (award of merit).

Dahlia Ajax (W. Burrell & Co.).—A Cactus variety of perfect form. The florets are superb; colour orange salmon (award of merit).

Dahlia Antler (W. Burrell & Co.).—A bright wine red true Cactus Dahlia (award of merit).

Dahlia Sylph (W. Burrell & Co.).—A reddish amber Cactus Dahlia of the best type (award of merit).

Gladiolus Burne Jones (Kelway & Son).—A brilliant rose-scarlet variety of large size (award of merit).

Gladiolus F. Paynter (Kelway & Son).—A handsome orange-scarlet flower of rather over average size (award of merit).

Gladiolus Lady Montagu (Kelway & Son).—This is a charming flower. The colour is creamy yellow, deepening on the lower segments, which have a crimson blotch (award of merit).

Gladiolus Henri Vandrier (J. Veitch & Sons).—An immense flower. The colour is crimson, with velvety shadings and white markings on the lower segments (award of merit).

Gladiolus Lemoinei Jane Dinulafoy (R. Wallace & Co.).—A lovely flower. The upper portion is salmon, and the lower cream with a bright crimson blotch (award of merit).

Hollyhook Black Knight (Webb & Brand).—A grand double of perfect form. The colour is deep blackish crimson (award of merit).

Lælio-Cattleya Bertha Fournier (Mrs. Mason).—This is from a cross between *Lælia elegans* Schilleriana and *Cattleya Dowiana*. It is very handsome. The narrow sepals are very pale bluish, and the slightly wavy petals rose purple. The large lip is crimson purple, with white venations in the throat (award of merit).

Lælio-Cattleya Wigamiana (W. H. Young).—A grand bigener, supposed to be from *Lælia purpurata* and *Lælio-Cattleya Dominiana*. The sepals and petals are soft rose with a purple suffusion, and the magnificent lip is rich dark velvety crimson (first-class certificate).

Melon No Name (D. Harrison, Guildford).—Apparently a scarlet flesh, but the whole fruit had gone (award of merit).

Nipenthes Balfouriana (J. Veitch & Sons).—A very handsome Pitcher, from a cross between N. Masteriana and N. mixta. The colour is green, with claret towards the lid, and dark crimson splashes (first-class certificate).

Phlox Le Mahdi (W. Paul & Son).—A splendid variety, of purple blue colour (award of merit).

Raspberry-Blackberry hybrid (J. Veitch & Sons).—A clear hybrid that favours the Blackberry in foliage. The fruits are dark in colour, of medium size, and excellent flavour (award of merit).

Rose Grusson Teplitz (W. Paul & Son).—A decorative Hybrid Tea. The colour is crimson, and it is very fragrant (award of merit).

Schomburgkia Lyonsi (E. Hill).—An old Orchid that is not often seen. The flower is white with numerous blackish crimson spots (award of merit).

Stanropsis lisochiloides (E. Hill).—A handsome flower, in which the yellow ground colour is almost obscured by deep chocolate; the reverse is rich purple (award of merit).

Tomato Chiswick Peach (R.H.S., Chiswick).—A variety of excellent flavour. The colour is very pale yellow (first-class certificate).

STRAWBERRY ST. JOSEPH.

It is considerably refreshing to an enthusiastic amateur who likes to try blauded novelties, and has, we will say, known what it is to be disappointed, when he finds a new plant fully coming up to his expectations. Such is the case with me and the perpetual bearing St. Joseph Strawberry, and I am almost inclined to say, like the Queen of Sheba, "the half had not been told me."

I purchased two dozen open ground runners at the end of February last; they were, I think, the poorest, smallest, and most wretched looking runners I ever saw. I planted them in my poor soil without any special preparation, and, under the circumstances, no ordinary Strawberry would have bloomed this year.

At the end of July the state of matters was this: All the original plants, which had had their first trusses of blooms pinched off were showing fresh trusses, a few fruits beginning to colour; the bed was quite covered with runners, most of them self-rooted, and not only the first runners but the runners, from them, were showing bloom.

Of course they have been taken care of, mulched and fed and watered, and, since the end of July, every runner is pinched off as soon as it forms. On showing this bed to a friend I ventured to prophesy, "In four or five years we shall grow nothing but hybrids from this Strawberry, and shall as soon think of growing a once-bearing Strawberry as a once-blooming Rose. Messrs. Laxton of Bedford have, I warrant, already hybridised it with Royal Sovereign, and Strawberries in future will be a 'standing' dish throughout the summer."

Within a fortnight I got Messrs. Laxton's catalogue, and there already, sure enough, is a cross between St. Joseph and Royal Sovereign described and advertised. Can anyone give a character to this novelty, "St. Antoine de Padone?"—W. R. RAILLEM.



RECENT WEATHER IN LONDON.—Though the weather continues very hot during the middle of the day, the mornings and evenings are distinctly cooler. On Sunday the wind blew chilly, as it did on Monday, and this alone made mid-day pleasant, as the sun was very powerful. On Tuesday the heat was intense, and there was quite a gale of wind in the evening, with local storms. Wednesday was fine, but cooler.

MEDALLION OF SIR JOSEPH HOOKER.—An addition to the large collection of portraits of eminent botanists and travellers has recently been made by the kind consideration of the President and Council of the Linnean Society of London, who have, says the "Kew Bulletin," presented a framed cast in bronze of the original model of Sir Joseph Hooker, G.C.S.I., C.B., P.P.R.S., executed by Mr. Frank Bowcher. It is an excellent portrait of Sir Joseph at the age of eighty, and records the completion of the "Flora of British India," and of a period of sixty years service to science. It has been placed in the Museum. A gold medal, specially struck for the occasion for which the medallion was designed, was presented to Sir Joseph Hooker at the anniversary meeting of the Linnean Society, on May 24th, 1898.

CAPEL, OCKLEY, HOLMWOOD, AND NEWDIGATE SHOW.—This is a popular composite flower show, and was held in a large field at Capel, the central village of the district, on August 9th. Organised several years since as a purely cottagers' exhibition, it seems to so far have accomplished remarkably good work, as the products seen in the various classes exhibited great average excellence, nothing coarse whatever being seen. This is a vast improvement on what was presented at the earlier exhibitions, and shows how good judging serves to correct imperfect knowledge ultimately. Having regard to the season, the hardness of the soil, which is generally clay, and the comparative scarcity of water, some of the exhibits were remarkably good, and would favourably compare with similar products anywhere. It was very interesting to find that such out of the season products as Rhabarb, Parsnips, and tap-rooted Beets were not invited in the schedule. It has been a wise observance that Short Horn Carrots and globe-shaped Beets have classes provided, as these are roots emphatically in season. But whilst not a penny in prizes are offered, the local gardeners make up a brilliant display, having the entire centre of a big tent at their disposal for groups. Some really very fine and attractive ones were thus staged from Mr. Roger, gardener to W. A. Calvert, Esq., C.C. (the President); Mr. Stephens, gardener to — Lyne, Esq.; Mr. Holden, gardener to Colonel Calvert; Mr. F. King, gardener to A. F. Perkins, Esq.; Mr. Wilkins, gardener to H. T. Broadwood, Esq.; Mr. Lacey, gardener to C. Mortimer, Esq., who also set up a fine collection of fruit; and Mr. Shepherd, gardener to Mrs. Cazalet. Messrs. J. Cheal & Co. sent a nice collection of cut flowers, including beautiful Cactus Dahlias.

WINTER-SOWN ONIONS.—There is hope yet for the winter raised Onion in relation to show classes. For the first time in my experience I met at the above named Surrey show with no less than three classes for Onions, and thus the much troubling winter-raised bulbs were separated as sheep from the goats of the outdoor sown. The result was the production of several exhibits of remarkably fine bulbs, the Ailsa Craigs from S. Lavery, a postman, ranking amongst the finest and handsomest bulbs I have seen anywhere this season. Large and weighty as were the Tripolia, and they have generally been found very fine this season, these winter-raised Ailsa Craigs fairly beat all for weight, depth, and beauty, as they were very handsome. The classes (three) in the schedule are thus:—Spring sown, ditto sown in the open, and winter Onions. In neither case is the description happy, but so well were they understood locally that although there was large competition, no one had made a mistake as to the proper class. We had some trouble in determining as to the best in the "sown in the open" class, as the best bulbs were so fine, either Ailsa Craig or Cranston's Excelsior, that they resembled winter-sown ones. We were, however, assured on undoubted authority that they were from an outdoor sowing, but the stock was a long way superior to those commonly sown. I hope all committees will soon see their way to include three classes in their schedules for Onions, and they should be for autumn sown, and spring sown in the open, and winter sown under glass. I think those descriptions would meet all requirements.—A. KINGSTON.

— LIABILITY OF NURSERYMEN SELLING POISONOUS COMPOUNDS.—In a prosecution recently instituted by the Pharmaceutical Society against Mr. J. H. White, florist and seedsman, of Worcester, for selling poison without being a duly registered chemist, the Judge, Sir Richard Harington, held that Mr. White was not liable for the fine of £5 under the Act. The poison sold was "Weed-killer," and Mr. White gave receipts bearing the name of the firm manufacturing it, taking special orders for the mixture and not keeping any stock of it upon the premises. This, the Judge held, was sufficient evidence that he (Mr. White) acted merely as an agent, and was, therefore, not personally liable.

— "CONGO STICKS."—The "Kew Bulletin" says:—We are indebted to Messrs. Henry Howell & Co., of 180, Old Street, for a further contribution to the series of umbrella sticks and walking canes, which have from time to time been presented by them to the Museums of the Royal Gardens. The specimens now received are the rough and finished sticks, known in the trade as Congo sticks. The word "Congo" is a purely commercial name, the sticks being saplings of the Chestnut (*Castanea sativa*), which apparently offers advantages over other woods for manipulation while growing. The characteristic knots or markings for which the so-called Congo sticks are valued are produced, by lacerating the bark through to the wood while growing. They were formerly obtained from the north of France, but are now almost exclusively produced in Austria-Hungary, the precise district being near Carlsstadt, in Croatia.

— FLOWER SHOW AT HARDWICKE.—A successful show was held at Hardwicke House, Bury St. Edmunds, on Bank Holiday, the charming grounds and flower garden being again opened to the good people of Bury, who flock there in their thousands. The Italian garden, as usual, formed the centre of attraction for many people, and this year it is in remarkably fine condition, bright and fresh-looking, full of flowers and charmingly arranged, a credit to the gardener in chief, Mr. Ben Marks. The herbaceous borders, too, were very beautiful, there being plenty of room for such plants as *Bocconia cordata*, various *Acanthuses*, and similar large-growing stock to extend and show their true and beautiful forms. In the flower show itself competition was extremely keen, and the Judge in many cases had a difficulty in coming to a decision. The competition was keen in the chief classes.—VISITOR.

— GYPSOPHILA PANICULATA.—Although I am not at all in sympathy with the spreading practice of using this *Gypsophila* as an addition to floral arrangements at shows, such as showing it with Sweet Peas and other flowers, there can be no two opinions as to its grace and elegance. For decoration at home or for use in vases, epergues, and table decorations, no fault can be found with exhibitors for using it, but when judging at a local show recently I felt compelled to disqualify an exhibit of twelve varieties of hardy plants in which this had been used for dressing every bunch. Of course the exhibitor thought he was harshly treated but when a dozen varieties are asked for, it is wrong to show thirteen. But the many ways in which this beautiful plant may be used in decoration should insure its being grown in every garden. I like it best in large clumps, and these are easily made by sowing a small quantity of seed in small pots, thinning the seedlings to about half a dozen in each, and planting these out as soon as strong enough. The panicles of flowers will spread laterally, and a dense, though not ungraceful, clump result. In conjunction with mauve, purple, or pale blue flowers its effect is exceedingly pretty, and I also noticed it used with Carnations recently with great success.—FLORIST.

— THE SHREWSBURY FESTIVAL.—As the devotees of cricket are betaking themselves to the Oval, the tired town dwellers to the seaside, or the co-operator enthusiasts to the Crystal Palace, so will the horticulturists be wending their way to their western Mecca of Shrewsbury, where ere another journal is in print the clans of the gardening community will have gathered to worship at the famous shrine in the Quarry, over which Messrs. Adnitt and Naunton so devotedly preside. That the annual festival will be a great one, and that thousands of gardening disciples will flock from all parts to take part in it, there can be no doubt. Happily it is not a Lourdes pilgrimage, but one of more practical and happier aspect. It is festival for the time dedicated to work, and work of the best and purest, for it is a great gardening feast, where, to admiring thousands from far and near, will be exposed the products of the gardeners' labour and art, and the best too that the nation can furnish. Anticipations even now run almost riot in regard to the show of Grapes, and wonder is great as to what the £100 class will produce. Where in all the world, famous as many of its parts are for its Grapes and its wine, can we find such grand fruits as will be seen at Shrewsbury festival next week?—A. D.

— **CELOSIA AT BACHE HALL.**—In a recent visit to the gardens of Mrs. Hudson, Bache Hall, Chester, I noticed a fine stock of healthy looking plants of *Celosia pyramidalis plumosa* in various shades of red ranging from deep crimson to light pink, and in yellow ranging from deep orange to light canary, all of which were particularly bright and graceful. In close proximity to these were well furnished specimens of *Eulalia japonica zebrina*, both of which Mr. Stubbs informed me were most useful for decorative purposes and in exhibition groups.—**GEORGE PAXTON.**

— **INDIAN GARDENING.**—Our Indian contemporary continues to make progress such as must be gratifying to everyone who is interested in it. Since we saw the first number we have carefully perused it week by week, and have seen it grow in interest and value with every issue. The Editor is keen in introducing such new features as he is of the opinion will be acceptable to his readers, and though the cultural conditions differ from those that prevail at home it is easy to see that the advice is sound, and it is moreover generally enclosed in pleasing literary wrappers. The first instalment of a series of articles entitled the "Profitable Cultivation of Vegetables" commenced in the issue of July 20th, and if the promise therein contained is fulfilled we feel sure that the information will be valuable, not only to market growers, but also to private gardeners and amateurs throughout the great Indian continent.

— **NOTES FROM IRELAND.**—The usual Council meeting of the Horticultural Society of Ireland was held on the 8th inst.; there was a good attendance of members. Arrangements were then finally settled relative to the flower and fruit display on Tuesday next, 22nd inst., in Merrion Square. Several members were elected; Judges were also selected, which brought the business of the Society to a close. The Council has retained the services of the band of the 1st Life Guards; this is the first appearance here. The members of the Dublin Naturalists Field Club will journey to the Murrrough of Wicklow on Saturday next, the 19th. The excursionists will be under the leadership of Dr. N. H. Alcock. The five hours allotted for collecting should prove a valuable medium, both for gathering new specimens and refreshing, if not re-awakening, some pleasant but fading knowledge.—**A. O'NEILL.**

— **A HANDSOME GIFT TO THE FRUITERERS' COMPANY.**—A beautifully wrought gold badge for the use of the Master for the time being has recently been presented to the Fruiterers' Company by Mr. W. Strang Steel, of Philiphaugh, Selkirk, N.B., the immediate Past Master. The background of the medallion is of burnished gold, and from it stand out in bold relief the arms of the Company. Eve, standing under the shadow of a tree, is in the act of presenting the forbidden fruit to Adam. The enamelling of the serpent, whose coils are to be seen around the trunk of the tree, is an exceedingly cunning piece of work-ship. The medallion is set in a wreath composed of clusters of Grapes and Figs, in diamonds, the brilliance of which is relieved by the entwining enamelled Vine leaves. A large olivine stone has been set at the base, and beneath are the words, "*Deus Dat Incrementum*," together with the figures 1606, the date of the Company's charter. On the reverse side is the inscription: "Presented to the Fruiterers' Company by W. S. Steel, Esq., Past Master. June, 1899." Each leaf of the encircling wreath stands out clear from the medallion, the many parts being so combined as to form a harmonious whole.—("City Press.")

— **GROUPS OF PLANTS AT GREAT MARLOW.**—Included in the festivities of the "Great Marlow week" was, very appropriately, an excellent horticultural show, in which groups of plants figured conspicuously; two of these, at least, were much above the average of merit as seen at local shows. Mr. J. Sharpe, gardener to Sir W. Clayton, Bart., Harleyford Park, secured the premier prize with quite an up-to-date and picturesque arrangement in the form of mounds and dells, in which there was no crowding, but every plant displayed its individual beauty. The central object was a telling plant of *Oycas circinalis*, forming a canopy to *Liliums*, *Gloriosa superba* and other flowers, while tufts of Blue Grass, *Festuca ovina cernua*, were used with charming effect in the smaller front mound. Mr. J. Gibson, gardener to R. W. Hudson, Esq., Danesfield, was an excellent second with an extremely bright and cheerful association of well grown foliage plants and flowers, pleasingly margined with small, well coloured plants of *Bambusa Fortunei* and *Isolepis gracilis*. Mr. T. Blackmore, gardener to R. H. Murray, Esq., Spinfild, followed with well grown Carnations as a prominent feature, the remaining prize being taken by Mr. J. Woods, gardener to Lord Boston, Hedsor Park, with a creditable arrangement. Besides the groups there was a good representative display of fruit, cut flowers, and vegetables. Arthur D. Cripps, Esq., is the active Honorary Secretary of the Horticultural Society.

— **GARDENING APPOINTMENT.**—Mr. Alexander Wright, gardener to T. McMeekin, Esq., Falkland Park, South Norwood, has been appointed head gardener to Arthur W. Sutton, Esq., Bucklebury Place, Wootton Bassett, Berks.

— **SHIRLEY AND FREEMANTLE HORTICULTURAL SOCIETY.**—Favourable weather attended the thirty-fourth annual show in connection with the Shirley, Millbrook, and Freemantle Horticultural Society, which was held on Bank Holiday, at Withedwood Park, Shirley Avenue, kindly lent for the occasion by Mr. G. Harris. Speaking of the show generally, the exhibits fell rather short of the number of last year, but having regard to the dry season they were of excellent quality. In the floral tent there were some exceptionally beautiful specimens. *Fuchsias* and "*Geraniums*" made a particularly strong class. In the fruit section a feature was the magnificent show of Grapes. Apples made a brave show. The vegetables, taken as a whole, were very good, the Onions and Potatoes being remarkably fine.

— **THE MANRERA VINE.**—Once again this splendid monument of man's skill and patience has borne its yearly burden, amounting to 945 bunches of an average weight of 1 lb. each. Never before have I seen it carrying such handsome berries—perfect in form and flavour, and as black as Sloes. What size this mammoth of the Grape world would eventually attain to if there were space for its accommodation, it is impossible to estimate, as it now, when only thirty-six years old, covers an enormous area. It cannot be a matter for surprise that the number of visitors to see it increases yearly, especially, when in addition to seeing the Vine one has the pleasure of a chat with its raiser and cultivator, Mr. M. Davis, whose pride in his handiwork is much more than justified.—**G. H. F.**

— **COLOURS OF FLOWERS—A COLOUR DICTIONARY.**—On page 75 of the Journal there is a note by "A. D." under the above heading, a comment by the Editor, and an extract from Miss Jekyll's book, all of which I have read with much interest, and hope to benefit thereby. Some years ago I ascertained that the "*American Florist*" had published "*A Chart of Correct Colours of Flowers*," and I secured several copies, one of which I herewith enclose. My difficulty in using it has always been the vast difference in richness of tone between the colours of the natural flowers and the colours on the chart. Still I feel that some standard of colours would be decidedly an advantage. Drapers and silk merchants have extensive ranges of colours in their business, and they make up very beautiful books of samples, as also do printers' ink manufacturers. This American chart is a step in the right direction, and some day I hope an attempt will be made in this country to agree upon and adopt a standard.—**WILLIAM CUTHBERTSON, Rothsay.** [The chart referred to by our contributor is a suggestive and useful production, but we cannot say that it agrees with English ideas of colour entirely. Some of the blocks are obviously wrong, but whether this is due to fading owing to exposure in strong light or not cannot be said. The idea is an excellent one, and has been carried out in a partial degree by the printing ink manufacturers to whom Mr. Cuthbertson refers; but the colours thus shown do not represent, or by any means equal, those of many of his *Violas* and *Dahlias*.]

METHEOLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	, Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest					
1899. August.										
Sunday .. 6	S. E.	deg. 68.5	deg. 64.9	deg. 73.1	deg. 62.9	ina. 0.04	deg. 60.1	deg. 65.9	deg. 61.3	deg. 53.3
Monday... 7	S. E.	67.7	62.9	71.1	62.2	—	67.7	65.6	61.9	55.5
Tuesday .. 8	S. S. E.	68.8	64.3	73.1	57.5	—	66.5	65.3	61.9	55.3
Wednesday 9	N. N. E.	60.1	57.1	70.8	54.3	—	66.1	65.1	61.9	48.5
Thursday 10	E.	67.1	60.7	74.4	51.9	—	65.5	64.9	61.9	43.8
Friday .. 11	E. N. E.	64.5	56.8	75.2	49.1	—	64.9	64.5	61.9	39.3
Saturday 12	E. N. E.	65.1	53.9	74.5	51.8	—	65.5	64.5	61.9	42.3
MEANS ..		65.3	58.7	73.2	55.7	Total 0.04	66.5	65.1	61.9	49.2

The weather during the week has been bright and very hot, with high winds mostly from the east. A small quantity of rain fell on the morning of the 6th inst.

BORDER CARNATIONS AND PICOTEES.

DURING the last few weeks the horticultural exhibitions in various parts of the country have been enriched by the matchless beauty of these popular flowers. The tide of fashion has changed, and Carnations, which for some years were under a cloud, are now the special pets of thousands of cultivators, who each year increase in numbers. Those who intend to make a speciality of them in the future should make a serious start at once.

Layering is a matter which demands immediate attention, for, although many growers have already completed that operation, it is not too late to do it now, especially in the midlands and north, where the flowers are, as a matter of course, somewhat later than in the south. Before commencing the actual work of layering, a sufficient quantity of soil should be mixed to place around the plants. A mixture of loam and leaf soil in equal parts, with a liberal addition of sharp sand, answers the purpose admirably after the whole has been passed through a half-inch sieve. Place a thickness of 2 inches of this compost round each plant, then remove a few of the leaves around the base of the young shoots, and make a slit at this point with a sharp knife in an upward direction, passing through a joint so as to form a tongue. Peg each shoot firmly to the prepared soil with a wire peg (these can be bought very cheaply), and take care to keep the "tongue" open by fixing the shoots in an upright position, then cover and add another inch of soil, water thoroughly, and the operation is completed. The layers ought to be examined three or four times weekly during bright weather, and whenever the soil around them is dry water through a rose. Attention in this matter is of vital importance, as it insures a strong and early start, and prevents failure, which is often the result of neglect in watering.

SOIL AND SITUATION.

Any good sweet garden soil, not too light on the one hand, or very heavy on the other, will suit Carnations well. It should be rich, without the addition of crude manure just before planting time. Soil which has been thoroughly manured for the previous crop is to be preferred, but when the ground is dug lime and soot may with advantage be freely incorporated with it to destroy insect pests, as well as to enrich the soil. When the land is heavy it should be ridged up in October or November, and as the work proceeds mix leaf soil and old mortar rubble with it; failing these, strawy manure only partially decayed, will help to keep the soil open, and the frost, air, and sunshine will further ameliorate it. Generally speaking, there is some part of nearly all gardens where Carnations can be induced to thrive without further trouble than that above indicated in regard to soil preparation. Still there are exceptions, and when one has to deal with a very heavy soil in an undrained garden some form of drainage is necessary.

The simplest way out of the difficulty is to thoroughly prepare a bed for the Carnations. Mark out a space 4 feet in width, remove the soil to a depth of a foot, break up the subsoil, and place upon it 5-inch layer of clinkers, broken bricks, or old mortar rubble. Cover this with straw, then return the soil, leaving it in ridge form. In spring this can be forked over a few times when dry and levelled to form a bed raised about 6 inches above the ground line. This entails much labour, but it also brings satisfactory results in those exceptional cases in which the extra trouble is needed. The situation should, in the majority of cases, be an open sunny one, but when very late flowers are required a few plants must occupy a north border; in such a position I have sometimes secured fine flowers.

PLANTING.

The advice usually given is, plant in March; but in warm districts, where the soil is not in the least heavy, I pin my faith on October planting, as the plants often make roots freely during mild winters, and withstand the drought of summer better than those planted three months later, and with the exception of a few varieties they are not often injured by winter frosts if the soil is coated with leaf soil or short sweet manure after planting. In cold districts, or where the land is heavy, planting should always be deferred till March. In such cases the layers when well rooted (which is usually about the end of September or early in October) must be placed in 4 and 5-inch pots, and kept throughout the winter in cold frames, giving them abundance of air consistent with keeping out frosts or heavy fogs.

SUMMER TREATMENT.

The beds should be kept perfectly free from weeds by frequently stirring the soil with a Dutch hoe, and in May or early in June if the weather is hot I find it an excellent plan to mulch the beds with a 2-inch layer of short manure. From the time flower buds are visible till the blooms are fully expanded frequent supplies of liquid manure or top-dressings of chemical fertiliser watered in are absolutely necessary to secure fine flowers of good colour and substance. During bright weather, while the blooms are expanding, light shade should be given;

tiffany stretched across poles answers the purpose well. Only the central bud must be retained on each flower shoot.

DISEASES AND INSECTS.

Rust is perhaps the worst disease which attacks border Carnations, but if the plants are clean to start with, and are liberally fed, no grower need fear this greatly; as with so many forms of vegetation, it is the "starvelings" which fall a prey to disease. If, however, any signs of rust are noticed on plants in frames during the winter, dust them occasionally with dry fostite, and during the summer time syringe with Outram's Carnation antidote. Wireworms often give much trouble, especially in new gardens, or where turfy soil has been added to the beds. In cases where they are known to abound gas lime spread upon the beds in autumn will kill numbers of them. It should be applied at the rate of $\frac{1}{4}$ cwt. to a square rod, and be allowed to lay upon the surface a few weeks before being dug in. In spring and summer pieces of Potatoes inserted in the soil form a dainty bait which attracts the grub. The Potatoes should be examined every few days, and the wireworms feeding upon them destroyed.

VARIETIES.

At a recent show I singled out the following varieties as being particularly good: Voltaire, Monarch, Brodrick, Britannia, May Queen, Eldorado, Perseus, Her Grace, Mrs. Eric Hambro, Roseleigh Gem, The Gift, May Yohe, Loveliness, Endymion, Regina, a fine yellow; Mrs. Colby Sharpin, rich cinnamon; Viscountess Melville, crushed strawberry; Lamplighter, light scarlet; and Braw Lass, bright rose.

The following are some of the best yellow ground Fancy Picotees: His Excellency, light red margin; Mrs. Tremayne, heavily edged scarlet; Miss Violet, edged bright rose; Badminton; Ladas, clear yellow, scarlet edge; Stanley Wrightson, bold flowers, edged scarlet; Empress Eugénie, rich yellow, edged rose; Mr. Alfred Tate, edged and barred deep red; Mogul, fine yellow ground, heavily marked deep red; Primrose League, edged and splashed with red; Sunset, buff, edged and flaked with red, a novel flower; Golden Eagle, fine yellow, marked with bright red; May Queen, light rose edge; and Florrie Henwood, clear yellow, edged with rose.

Those who intend to purchase a stock of plants to start with should order early, so as to secure good samples, as the nurserymen conduct their business on the principle of first come best served, and orders can be booked for delivery during autumn or spring to suit the purchaser.

—CARNATION GROWER.

[As supplementary to the varieties enumerated by our experienced contributor, we are giving an illustration (fig. 32) of three excellent new varieties of this season, and to each of which the Floral Committee of the Royal Horticultural Society has recommended an award of merit. The self-coloured variety in the left corner is Agnes Sorrel, a clove scented dark crimson flower, shown by Mr. C. Turner; the one at the top is Don Carlos, a magnificent yellow ground, with bright rose markings; and the one at the bottom on the right is Galileo, a pale yellow ground, which colour is almost obscured by the deep crimson markings. This was shown by Mr. Turner, while Don Carlos came from Mr. C. Blick, gardener to Martin R. Smith, Esq., Hayes.]

SHOWS.

KING'S NORTON.—AUGUST 7TH.

THE sixteenth annual show took place in The Dell, the residence of G. E. Bellis, Esq., than which there is not a more delightful suburban domain around Birmingham. The hothouses and the gardens were thrown open to visitors, and a series of sports and other entertainments also formed a considerable attraction.

The premier prize for a group of plants arranged for effect was won by Mr. J. Palmer, gardener to J. Earle, Esq., for a most effective and artistic arrangement, the second prize going to Mr. Morgan, gardener to W. H. Wynn, Esq., and the third to W. Tallis, Esq. For nine stove and greenhouse plants, Mr. J. Palmer (who is a well known old Birmingham Orchid grower and plantsman) took first honours with several fine specimens, the second and third prizes being taken by Mr. W. H. Wynn and Mr. W. Tallis. For three plants the same order was maintained. The last named was the only exhibitor of Fuchsias—viz., for three plants and one plant, and worthily won the first prize. For three Zonal "Geraniums," Mr. W. Tallis and Mr. E. Baker were the prizetakers.

Ferns were well shown by Mr. W. H. Wynn, and Adiantums by Mr. W. Kentish and Mr. J. B. Mosely. For three Palms, Mr. J. Palmer and Mr. W. Tallis were the respective winners. Coleuses came from Mr. J. Palmer and Mr. W. H. Wynn, and Caladiums from Messrs. J. Palmer and W. Tallis. For three table plants Messrs. J. Palmer, W. H. Wynn, and W. Tallis were the chief exhibitors. For six Gloxinias, Mr. E. W. Asbury (fine), and Mr. W. Kentish were the successful exponents.

Roses were fairly well shown by Mr. H. Duckworth and Mr. A. J. Hughes. For a collection of Sweet Peas (the prize offered by Mr. Robert Sydenham) Mr. M. A. Smithson, Mr. R. Hunt, and Mr. F. Impney were in order named. For a collection of twelve stove and greenhouse flowers, distinct, Mr. J. Palmer was

first with a choice stand, as also was he for a collection of perennial garden flowers, Mr. W. Kentish taking the second prize. Cactus Dahlias came from Mr. A. V. Hughes and Mr. J. Palmer. Mr. W. Kentish was the only exhibitor of Carnations, and received the first prize.

For a collection of six dishes of fruit the first prize was adjudged to Mr. F. Impney, the second to Mr. J. G. Ledsam, and the third to Mr. W. H. Wynn, all with fairly good productions. For two bunches of Grapes (black) Mr. W. H. Wynn was placed first with well-coloured, large bunches and medium-sized berries of Alicante, as opposed to good examples of Black Hamburgh, with finely ripened and well-coloured berries, though lacking the perfect bloom of the former, shown by Mr. F. Impney. The latter took the first prize for a fair dish of Peaches,

West Derby, Liverpool. The ninth annual Show was held on the above date. The richly wooded boundary skirting the field adjoining the rectory was a scene of animation, cottagers vying with professionals in their endeavour to excel. The rector, too, was present, and his good lady also, with notable visitors staying with them, all taking every interest in the work, the scene was very animated. The weather, too, was delightful, and an undoubted success was scored.

Mr. C. A. Young, as Chairman, seemed indispensable, whilst no two could be found to take the duties of Secretary and assistant more satisfactorily than Mr. Arthur Rose, the esteemed village schoolmaster, and his willing assistant, Mr. Gregson. The stagers, too, in their multitudinous work with the cottagers are to be highly complimented.

The classes were very numerous, and in plants especially Mr. Geo.

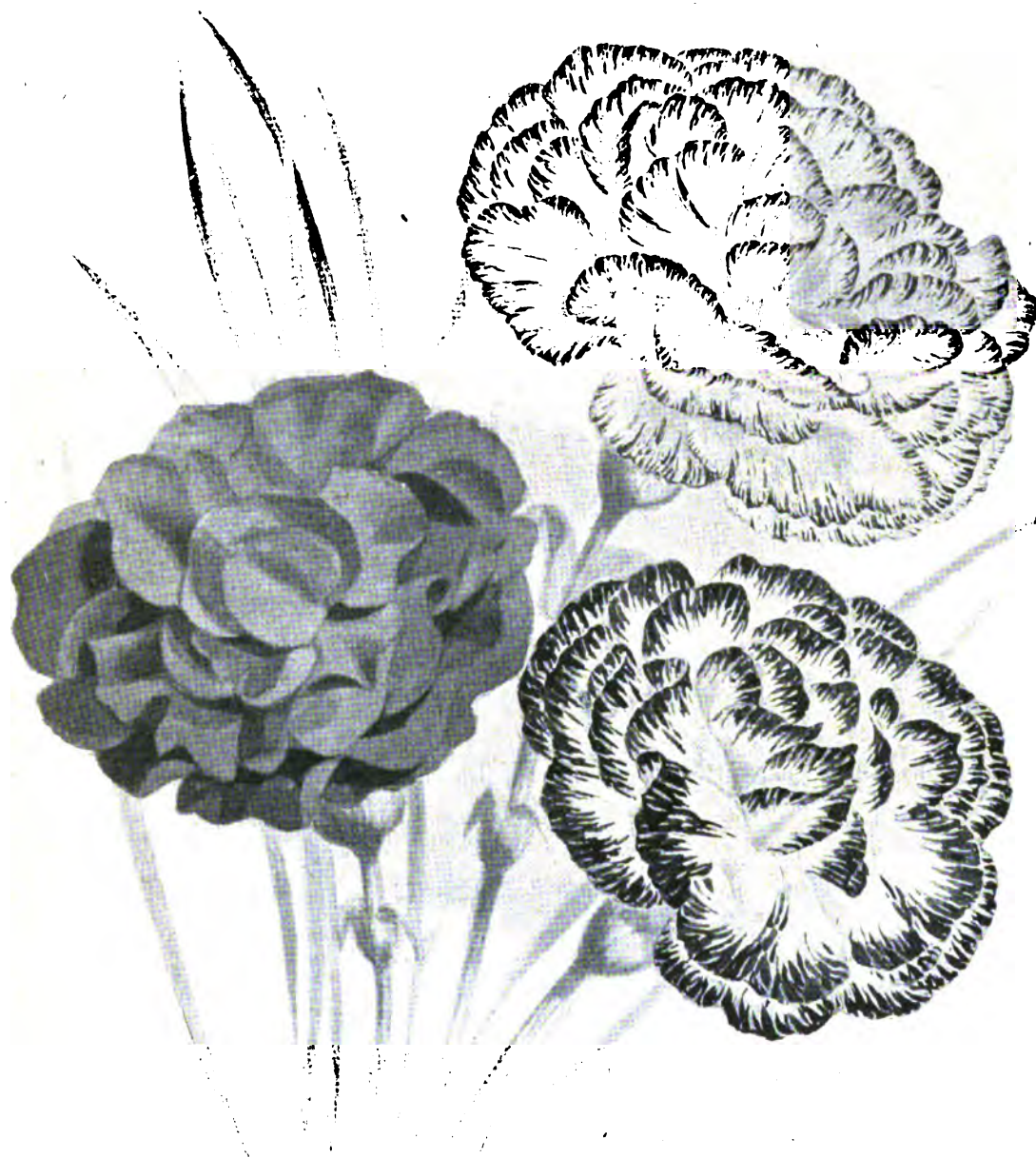


FIG. 32.—THREE NEW CARNATIONS.

the second being awarded to Mr. W. Kentish. For one Melon Mr. J. G. Ledsam was first, and Mr. W. H. Wynn second.

There was keen competition in the various vegetable classes for the Society's prizes, both in the open and amateurs', also in the cottagers' divisions; likewise for the prizes for vegetables offered by Messrs. Sutton & Sons, Reading; Simpson & Son, Birmingham; by Mr. R. Sydenham for Sweet Peas, and by Mr. W. B. Child, Acocok's Green, for hardy flowers.

Messrs. Pope & Sons, Birmingham, were awarded certificates of merit for fine examples of Dahlia Arachne and a collection of Cactus Dahlias, and a similar award for an elegant table decoration.

WEST DERBY.—AUGUST 7TH.

BANK Holiday is one of the days looked forward to with more than ordinary interest by the inhabitants of the pretty suburban village of

Osborne, gardener to Dr. Duffus, made an extra display, reflecting much credit to employer and employé. His group arranged for effect was light and elegant, judicious care as to colour being carefully studied. Mr. Henry Ogden was a good second. For flowering and foliage plants Mr. Osborne won, a Bougainvillea Sanderiana being noticeable. In the class for twelve varieties of vegetables, quality such as one desires secured Mr. Osborne the position, and he advanced a long way in the class for twelve herbaceous cut flowers.

Fruit was a leading feature, and unstinted praise must be given Mr. W. Cross, gardener to Miss Wright, for the extra good Grapes, the Black Hamburgh, Muscat of Alexandria, and Buckland Sweetwater, which won in all classes, showing high culture, in large bunches, carefully thinned, berries in consequence large and colour perfect.

The cottagers' exhibits merited every praise, one feature being the sound rate of progress in the culture of flower and vegetable gardens,

many being almost beyond criticism; and if the Committee, owing to the large number who enter, could make six prizes instead of three in each class, it would be a step in the right direction.

Without Mr. C. A. Young the trade part would be feeble, his Sweet Peas, Begonias, and Fairy Roses attracting all connoisseurs. They were admirably arranged, so that every flower had its full points displayed. Following in the fruit section was Mr. F. Roberts, another experienced gardener, with Grapes, Melons, Peaches, Nectarines, and Cherries in such perfection of quantity and quality, and lifted slightly from a base of Maidenhair Fern, as to make all fit for any exhibition table in the kingdom. Certificates were promptly given. The prizes were kindly distributed by the Hon. Mrs. Lyon.

ACOCK'S GREEN.—AUGUST 7TH AND 8TH.

IN dull, but favourable weather, on the above days, the ninth annual exhibition, promoted by the Acock's Green, Yardley, Olton and District Horticultural Society, was held in a field lent by Z. Walker, Esq., an ex-President of the Society. The number and quality of the exhibits maintained former reputations.

The coveted honours in the open class for the best arranged group of plants for effect was easily won by Mr. J. V. Macdonald, gardener to G. H. Kenrick, Esq., Edgbaston, with one of his characteristic combinations, in which a rich profusion of the charming cinnabar-coloured *Fuchsia triphylla* was conspicuous and effective. Orchids also formed a feature in the arrangement. The second prize was carried off by Mr. E. Burden, Moseley, for a tasteful exhibit, and the third by Mr. Councillor W. Waters, Acock's Green, for a highly creditable group.

Stove and greenhouse plants were well shown by Mr. Macdonald and Mr. Councillor W. Waters, the same exhibitors also taking the first and second prizes for six each of large exotic Ferns, and Mr. E. Burden the third prize. Zonal "Geraniums" were excellent, the first prize being accorded to Mr. Z. Walker, the second to Mr. Councillor Waters, and the third to Mr. R. Llewellyn. *Coleuses* formed a feature, and for three specimens Mr. Z. Walker, Mr. Llewellyn, and Mr. G. E. Wright were the prizetakers in order named. *Fuchsias* were meritoriously represented by Mr. E. Burden and others.

Roses were creditably staged by Messrs. Perkins & Sons, Coventry, Mr. W. E. Perks, and Mr. Moseley in the class for six varieties; while for twenty-four Messrs. Perkins & Sons were again ahead, closely followed by Mr. W. E. Perks, this order being maintained for twelve varieties. Cactus and Show Dahlias were unusually good, the prizes falling respectively to Messrs. E. Edmondson, Knowle; J. Child, Acock's Green; and W. Moseley. Superior Cactus Dahlias were shown in fine form, "not for competition," by Messrs. Pope & Son, Birmingham, who also sent a splendid "shower" bouquet, in which sprays of *Ceanothus Veitchi* were the distinguishing feature. Carnations and Picotees, considering the season, were shown in very good form by Mr. H. G. Owen, Kings Heath. Mr. Macdonald and Mr. E. Stuteley were second and third. Hardy perennials, cut flowers, were splendidly exhibited by Mr. W. B. Child and Mr. Z. Walker; and for fine exhibits of annuals in bunches Messrs. E. Stuteley, E. Edmondson, and W. B. Child were the winners.

Fruit was fairly well exhibited, and for six dishes Mr. E. Edmondson was first with excellent bunches of Muscat of Alexandria and Black Hamburg Grapes, Peaches, Nectarines, Morello Cherries, a Melon, and Apricots. The second prize went to Mr. E. Wright, and the third to Mr. E. Burden. For two bunches of black Grapes Mr. E. Edmondson was placed first, Mr. A. Lovekin second, and Mr. W. Hemmings third. Mr. E. Edmondson was also first for two bunches of fine and well-ripened Muscat of Alexandria.

The local classes were well represented, and for a group of plants arranged for effect Mr. Councillor W. Waters secured first, and Mr. G. E. Wright second positions. Begonias were keenly contested, and gave the Judges some little difficulty in making the awards. For six doubles Mr. T. Howes was placed first, and Mr. Z. Walker second. For six singles Mr. S. Issett was a capital first, followed by Messrs. G. E. Wright and J. E. Gill. *Gloxinias* were especially good, and the first prize fell to Mr. Z. Walker, the second to Mr. W. G. Patterson, and the third to Mr. G. E. Wright. For six exotic Ferns Messrs. Z. Walker, G. E. Wright, and R. Lovekin were the respective winners, all with good plants. Numerous other exhibits were staged, including excellent vegetables, in the open, local open, amateurs, and cottagers' classes. The Show was opened by Mr. S. Taylor (President), who stated that during the past nine years £3000 had been collected.

HARBORNE.—AUGUST 7TH AND 8TH.

THE thirty-eighth annual exhibition was held, as last year, in the grounds of J. Innes, Esq., and though hardly so large as on the former occasion, the exhibits were up to the average in quality.

There was a considerable deficiency in the number of groups and plants arranged for effect. Mr. S. Gibbs, gardener to J. B. Manley, Esq., Harborne, was an easy first with an artistic and elegant arrangement. Mr. Batchelor, gardener to Mrs. Armfield, was second. For nine stove and greenhouse plants Mr. O. Brasier, gardener to Lady Martineau, Edgbaston, was an easy victor with fair examples. The second prize fell to Mr. S. Gibbs, and the third to Mr. Jones, gardener to Mrs. Henry Mitchell, Edgbaston. For three plants Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston, was the only exhibitor, and was awarded the first prize.

Fuchsias, as usual, were an attractive feature, and Mr. S. Gibbs was placed first for six plants in not less than four varieties. For three varieties Messrs. O. Brasier, A. Cryer, and Jones were the respective winners. In the class for ornamental foliage table plants Mr. A. Cryer

was first, Mr. A. W. Hulce second, Mr. Jones third, and an extra prize was awarded to Mr. Brasier. Zonal "Geraniums" were splendid, and Mr. A. Cryer secured the first prize, Mr. S. Gibbs the second, and Mr. A. W. Hulce the third. Mr. S. Gibbs was the only exhibitor of double flowering *Petunias*; and for Begonias Mr. A. Cryer, Mr. Hulce, and Mr. Brasier were the winners. *Gloxinias* were well shown by Mr. Hulce, Mr. A. Cryer, and Mr. Jones; also *Coleuses* by Messrs. Cryer, Jones, and S. Gibbs. *Caladiums* were staged by Mr. Hulce and Mr. Jones, and exotic Ferns by Messrs. Hulce, Cryer, and Batchelor, the latter being awarded an extra prize for fine specimens not for competition. Boxes of cut flowers, stove or greenhouse, were well exhibited by Mr. Cryer and Mr. Brasier. Roses, twenty-four blooms, were in fine condition from Mr. W. Charlton, gardener to Mr. Fred. Ryland, Harborne; and for twelve blooms the first prize was awarded to Mr. W. F. Vernon.

Fruit formed an interesting feature, and for a collection of six dishes Mr. O. Brasier was adjudged the first prize. There were good Black Hamburg and Muscat of Alexandria Grapes, fine Peaches and Nectarines, a Melon, and early dessert Apples. The second prize was won by Mr. S. Gibbs, his Peaches and Nectarines being superb, and the third by Mr. C. Cooper, gardener to H. C. Field, Esq., Edgbaston. For two bunches of black Grapes Mr. C. Cooper was awarded the first prize, and for white Grapes Mr. W. Charlton was first with large but unripe berries of Muscat of Alexandria; Mr. C. Cooper was second with Foster's Seedling. For a dish of Peaches Mr. C. Cooper was awarded the first prize—the only exhibit. Tomatoes were well shown by Messrs. Brasier, Jones, and Charlton.

The competition amongst vegetables was keen, especially in the cottagers' classes, Potatoes being especially good. A very fine collection of herbaceous flowers was exhibited by Mr. W. Charlton, and Mr. W. Phillips, florist, Harborne, sent a beautiful floral anchor, not for competition.

MOSELEY AND KING'S HEATH.—AUGUST 8TH.

THE twentieth annual Show was held in the grounds at Highbury, lent by the President, the Right Hon. Joseph Chamberlain, who also allowed his Orchid and other glass structures to be thrown open to the visitors. The leading feature of the Show was made by the groups of plants arranged for effect in half-moon shaped areas, and in the open class, Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston, was adjudged the coveted first honours for an artistic and graceful arrangement. Mr. E. J. Musten, gardener to A. F. Bird, Esq., Moseley, was second with a bright and novel arrangement. The third prize was awarded to Mr. O. Brasier, gardener to Lady Martineau, Edgbaston. In the local class, Mr. Geo. Fawdry, gardener to W. Smith, Esq., Moseley, was placed first for a pretty group, and Mr. J. Collins, King's Heath, second.

For six stove and greenhouse plants, Mr. Cartland, King's Heath, was awarded the first prize for a fair plant of *Acalypha hispida* (Sanderi), a large plant of *Croton angustifolius*, a fine *Cycas revoluta*, *Croton Sunset*, and *Plumbago capensis*. For three Palms, Mr. Brasier won the first, and Mr. Cartland the second prize. Exotic Ferns were well shown by Messrs. Musten, Brasier, and Cartland, as in order named. Three fine specimens of *Dracaenas* in variety were exhibited by Mr. Cartland. Excellent *Gloxinias* came from Mr. Musten and Mr. J. Horton, and an exhibit of fine Cockscombs from Mr. Cartland. Dinner table plants were creditably shown by Mr. G. Fawdry, gardener to W. Smith, Esq.; and also by Mr. A. Cryer.

Caladiums, Zonal "Geraniums," *Fuchsias*, Begonias, and *Liliums* were meritoriously shown by several exhibitors. Cut flowers formed a feature in the Show, also bouquets, while dinner-table decorations and baskets of flowers, exhibited by ladies only, were very attractive. In competition for Mr. R. Sydenham's prize for Sweet Peas, Mr. W. H. Parton, jun., King's Heath, was accorded the first prize.

Fruit was on the whole very well represented. For six dishes, dissimilar, Mr. A. Ganderton, gardener to A. G. Buller, Esq., was given the first prize for very good bunches of black and white Grapes, Peaches, Nectarines, Cherries, and Gooseberries. The second prize went to Mr. Cartland, and the third to Mr. E. T. Musten. For two bunches of black Grapes Mr. Cartland was placed first with very good examples of Black Hamburg. For two bunches of white Grapes Mr. Cartland was first with Muscat of Alexandria, and Mr. Buller second with Foster's Seedling. Peaches were very good from Mr. Buller and Mr. Musten.

Vegetables were excellent in competition for the prizes offered by Mr. J. Chamberlain, and the specials offered by Messrs. Sutton & Sons, Thomson & Co., Birmingham, and Daniels Bros., Norwich, and for which the exigencies of space will not allow of an extended description.

WESTON-SUPER-MARE.—AUGUST 8TH.

ALTHOUGH the various tents erected in the Grove Park were not quite so well filled as usual there was a good all-round display. The greatest falling off was apparent in the cut flower, fruit, and vegetable departments, and this, considering the trying weather, was not at all surprising. The new Hon. Secretaries, Messrs. C. E. Masters and E. W. Moon, carried out their duties in a most praiseworthy manner, and another success has to be chronicled.

The principal class was that for twelve stove and greenhouse plants, and was well filled, but Mr. J. Cypher, Cheltenham, easily gained the first prize of £15 15s. His grand bank consisted of fine specimens of *Kentia Belmoreana* and *Forsteriana*, *Latania borbonica*, *Croton Queen Victoria*, *Allamanda nobilis*, *Statisia intermedia*, *Phaenocoma prolifera*, *Barnesii*, *Bougainvillea Sandersii*, *Ixora Williamsii*, and *Ericas Irbyana*, *Austiniana*, and *Altoniana*. Mr. W. Rowland, gardener to W. Brook,

Esq., Exeter, took the second prize, showing, among other plants, admirably flowered *Dipladenia amabilis* and *Clerodendron Balfourianum*. The third prize was awarded to Mr. G. Hallett, Bath. The best six flowering plants were shown by Mr. Cypher, second Mr. Rowland, similar positions being occupied by these exhibitors in several other plant classes with Mr. G. Hallett and Messrs. Brook & Son, Weston-super-Mare, competing for the third prizes. For four Orchids Mr. Cypher was first and W. M. Appleton, Esq., Weston-super-Mare, second.

There was a capital collection of table plants shown, the prizes going to Messrs. G. Coles, Clifton; Sutton, gardener to W. A. Todd, Esq., Clifton; G. Shelton, gardener to A. K. Want, Esq., and J. McCulloch, gardener to J. C. Godwin, Esq., in the order named. Messrs. W. Brooks and Son were the principal prizewinners in different classes for Zonal and Ivy-leaf *Pelargoniums*, with Mr. R. Massey, gardener to the Rev. A. J. Burr; Mr. W. Larcombe, gardener to J. R. Cassell, Esq., Weston-super-Mare, and Mr. J. Crook were also among the prizewinners. Cockscombs were good. First, Mr. R. Massey, second, Mr. Shelton. Mr. W. Daffurn, gardener to Col. Bramble, was well first with *Gloxinias*; second, Mr. W. Summerhays, gardener to H. Pethick, Esq. Messrs. Brooks and Son were the most successful competitors with *Liliums*, *Coleuses*, *Fuchsias*, and *Petunias*.

The best exotic Ferns were shown by Mr. W. Rowland, Messrs. Brooks and Son and W. Larcombe also doing well. For a collection of *Adiantums*, Mr. J. Hollier, Clevedon, was first, and Messrs. Brooks & Son second. Hardy Ferns are invariably shown at Weston-super-Mare in goodly numbers and variety. With these Mr. W. Larcombe was first, Messrs. Brooks & Son second, and Mr. G. Hallett third.

Groups of miscellaneous plants arranged for effect were quite a feature. Mr. W. Rowland was placed first for the larger sized group, showing a well grown and admirably assorted collection of plants in a light and effective manner, Messrs. Brooks & Son were second, and Mr. G. Hallett third. For a smaller group Mr. R. Russell, Weston-super-Mare, was first, and Mr. W. Brooks second. Cut flowers were well provided for, but as before intimated, there was a falling off in the number of entries. The best twenty-four triplets of Roses were shown by Mr. J. Mattock, Oxford, second Mr. T. Hobbs, Bristol. For twelve varieties Mr. G. Garraway, Bath, was first, and Mr. A. A. Walters second. Mr. J. Mattock was again first for Teas, second Mr. Garraway. *Dahlias*, considering the season, were remarkably good. For twenty-four varieties Mr. W. Treseder, Cardiff, was first, with Mr. G. Humphries, Chippenham, a close second. Mr. W. Treseder exhibited twelve varieties of *Cactus Dahlias*, five blooms in a bunch, in a most attractive manner, and was easily first. Hand bouquets, notably that gaining Mr. W. Treseder the first prize, were exceptionally good, Mr. W. Brooks taking the second prize. Vases, table decorations were fairly numerous and in good taste.

Fruit and vegetables had ample space devoted to them. For a collection of eight dishes of fruit Mr. J. Lloyd, gardener to V. Stuckey, Esq., Langport, was well first, he having a Queen Pine, Madresfield Court and Muscat of Alexandria Grapes, Taunton Hero Melon, Hale's Early Peach, Pineapple Nectarine, Henskerk Apricot, and Jefferson Plum, all in admirable condition. Mr. W. Iggulden was second. The best four dishes were shown by Mr. S. Kidley, gardener to W. A. Sanford, Esq., Wellington. Mr. E. Eaves, gardener to E. C. Trevillian, Esq., was a close second. In minor classes Messrs. G. Lock, Crediton; J. Lloyd; T. Wilkinson, gardener to Mrs. Talbot, Greaves, Clifton; J. Ollis, gardener to C. E. Whitting, Esq.; G. Shelton, G. Sutton, W. Iggulden, W. Eaves, J. Lloyd, Daffurn, R. Cox, G. Garraway, W. Hayes, and E. Hall were successful. For a collection of vegetables Mr. S. Kidley was first and Mr. G. Hall second. There were numerous other classes for vegetables.

LEICESTER.—AUGUST 8TH AND 9TH.

THIS important Show, which was held in the charming and extensive grounds of the Abbey Park, was a pronounced success, and decidedly superior to any previously held in this flourishing Midland town. Substantial prizes were offered for groups of plants, and although—owing to the number of other fixtures clashing with Leicester—only two were staged, these were of a very high order of merit, and delighted the thousands of visitors. Cut flowers were shown in large numbers and grand condition, and the display of fruit, though not numerous, was fairly good. The attendance on the opening day proved to be a record one in the history of this Society, which was doubtless due to the brilliant weather and liberal programme of entertainments provided.

The Abbey Park is an ideal spot in which to hold a great show, as the grounds are extensive and extremely picturesque, grass, trees, flowers and water being so skilfully combined as to give delight at every step. The grounds throughout were in the best of condition, showing that a master hand is at the helm in Mr. J. Burn, the Curator, who also carried out in an admirable way the duties of secretary of the exhibition. Near the main entrance of the park an extensive group of *Agaves* and *Aloes* were a great attraction, two large specimens of *Agave americana* being in flower. At another point near the principal groups of brilliantly coloured flower beds a remarkably fine display of *Pentstemons* were in evidence. Much more might be said about the very fine features of the park, but I must now deal briefly with the points of interest in the Show.

PLANTS.

Prizes of £20, £10, and £5 were offered for the most tastefully arranged group of plants, to occupy 160 feet superficial measure. The premier award was deservedly won by Mr. Mee, Nottingham, with an

extremely effective and well-finished group. A grand *Kentia* with large spreading fronds surmounted the central mound, which was formed of brightly coloured *Crotons*, *Bamboos*, *Grasses*, and flowering plants. The groundwork was of moss, and a number of smaller mounds were formed around the central one, each being topped with *Cocos Weddelliana* or other graceful foliaged plants, and lightly outlined with *Ixoras*, *Orchids*, *Crotons*, and *Ferns*. Here and there in conspicuous positions well-grown plants sprang from the mossy bed, upon which cushions of well-berried *Nertera depressa* rested; the whole forming a well balanced arrangement, which reflected great credit upon the exhibitor. Messrs. W. Artindale & Son, Sheffield, were a good second with an arrangement similar in design to the winner, but the central mound was somewhat too large for the size of the group, which as a whole lacked the well-balanced proportions of its rival. It showed, however, that this new exhibitor has taste for grouping, and will doubtless prove a formidable opponent wherever he puts in an appearance. *Orchids* and *Cocos plumosa* were freely used, and the whole of the plants were well grown.

For six stove and greenhouse plants, three flowering and three foliage, Mr. H. Blakeway, gardener to P. A. Muntz, Esq., Rugby, won with good examples of *Ixora Fraseri*, *Erica Marnockiana*, *Statice profusa*, *Phoenix dactylifera*, *Cycas revoluta*, and *Kentia Forsteriana*, Mr. Mee being second, and Mr. H. Rogers third. Mr. Mee was again to the front in the class for six exotic Ferns, showing good examples of *Gleichenias*, *Adiantums*, and *Dicksonias*, being followed by Mr. Blakeway. Mr. J. Wright, Leicester, was first for six single tuberous-rooted *Begonias*, and also for a like number of doubles in distinct varieties. For six *Coleus* Mr. J. Hudson, Leicester, proved the winner, being followed by Mr. G. Brown, Stonegate, and Mr. Rogers in the order named. Mr. G. Brown, Knighton, was first for four *Fuchsias*, and Mr. Mee occupied a similar position for six table plants. Zonal *Pelargoniums* were well shown by Mr. J. Wright, who won for six singles, and also for six doubles.

CUT FLOWERS.

Considering the hot weather recently experienced Roses were in good form, many of the blooms being extremely bright in colour. For thirty-six blooms Messrs. Alex. Dickson & Sons, Newtownards, Ireland, secured the premier position with flowers of very even quality. The varieties were *Alphonse Souper*, *Her Majesty*, *Ulrich Brunner*, *Marchioness of Dufferin*, *Madame Lacharme*, *Alice Grahame*, *Alfred Colomb*, *Mrs. J. Laing*, *Dr. Andry*, *Marchioness of Londonderry*, *Earl of Dufferin*, *Jeanie Dickson*, *Marie Verdier*, *Ferdinand de Lesseps*, *Duchess of Portland*, *Marie Rady*, *Mrs. W. J. Grant*, *Duke of Fife*, *Maréchal Niel*, *S. M. Rodocanachi*, *A. K. Williams*, *G. Harkness* (a new variety of lovely pink colour), *Charles Lefebvre*, *Olivier Delhomme*, *Queen of Queens*, *Countess of Caledon*, *John Stuart Mill*, *Madame Wagram*, *Prince Camille de Rohan*, *La France*, *T. B. Haywood*, *Maman Cochet*, and *Madame Lambard*. The second prize went to Messrs. D. & W. Croll, Dundee, who had very brightly coloured flowers of *Her Majesty*, *Duke of Edinburgh*, *Madame Eugène Verdier*, and *Earl of Dufferin*. Messrs. Harkness and Sons, Bedale, were third; *Clio* and *Maréchal Niel* were grand in their stand. Messrs. Dickson won also for twenty-four blooms, being followed by Messrs. D. & W. Croll and Harkness & Son in the order named. For twelve Teas or *Noisettes* Messrs. Dickson again scored, Messrs. Croll being second, and Messrs. Cocker & Sons, Aberdeen, third. For twelve Tea Roses, any one variety.—First, Messrs. Dickson, with a lovely stand of *Mrs. Mawley*; second, Messrs. Harkness, with fine *Maréchal Niel*; third, Messrs. Cocker, with *Comtesse de Nidailiac*. Twelve Roses, any one variety.—First, Messrs. Dickson, with *Lord Dufferin*; second, Messrs. Harkness, with *Maréchal Niel*; third, Messrs. Croll, with *Alfred Colomb*. In the amateurs' classes, Mr. W. Boyes, Derby; Mr. Whittle, Leicester; and Mr. Bennet, Bedford, were the principal winners.

Carnations and *Picotees*, not numerous shown, were put up in good condition, especially in the class devoted to yellow ground *Carnations*. For twelve *Carnations*, flakes or bizzarres, Messrs. W. Campbell & Sons, High Blantyre, won; Mr. A. W. Jones, Birmingham, being first for twelve yellow *Carnations*, *Self* or *Fancy*. Messrs. Campbell & Sons also won for twelve *Picotees*, and Mr. W. Barsley for six bunches of *Carnations* or *Picotees*.

£5, £3, £2, and £1 were the amounts offered in prizes for collections of hardy herbaceous flowers, to occupy a space of 15 feet by 5 feet each. Magnificent seems to be the only fitting term to describe the display made by the collections staged. The first prize was well won by Messrs. Harkness & Sons, Messrs. J. Cocker being second, and Mr. H. Deverill, Banbury, third.

For a hand bouquet, first Mr. E. Carnall, Leicester; bridal bouquet, first Mr. Ilman, Lincoln. The last named exhibitor also won for six buttonhole bouquets and for three sprays. Mr. Carnall was first for a basket of flowers.

FRUIT AND VEGETABLES.

For eight dishes, distinct, Mr. J. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, easily won the £6 offered for the first prize. He staged Black *Hamburgh* and *Muscat Hamburgh* Grapes in grand condition, fairly good *Muscats*, fine *Princess of Wales* Peach and *Countess Melon*, a *Queen Pine*, *Pineapple Nectarine*, and a beautiful dish of *Lady Sudeley Apple*. Mr. J. Read, gardener to the Earl of Carnarvon, Bretby Park, who was second, showed a fine *Smooth Cayenne* Pine and a beautifully netted *Melon* in his collection; Mr. A. McCulloch, Newstead Abbey, being third. For eight dishes distinct, *Pine* excluded, Mr. Goodacre again scored, showing a grand *Countess Melon* good *Sea Eagle* Peaches, *Canon Hall Muscat* and *Black Hamburgh Grapes*, *Pine*—

apple Nectarines, Negro Large Figs, Jefferson Plums, and Dr. Jules Guyot Pears. Mr. McCulloch followed, having among other good dishes grand examples of Madresfield Court Grapes, large in bunch and berry, and well coloured. Mr. Read was third.

For a collection of four varieties of Grapes, two bunches of each, Mr. McCulloch turned the tables on his doughty opponent, and won well with Gros Guillaume, Gros Maroc, Madresfield Court, and Muscats; second, Mr. Goodacre; third, Mr. G. J. Elphinstone, gardener to E. Parry, Esq., Woodthorpe Grange. Mr. Read was first for a single Pine; Mr. Dunsan, Rugby, won for two bunches of Black Hamburg Grapes, and also for a like number of Muscats. For any other black, Mr. McCulloch won with Madresfield Court, and Mr. Read again scored for any other white with large shapely examples of Buckland Sweetwater. Messrs. Goodacre and Elphinstone were the principal prizewinners in the single dish classes.

Vegetables, though shown in considerable numbers, were certainly not one of the strong features of the Show. For twelve distinct varieties, Mr. J. Read was first, Mr. R. Shaw second, and Mr. J. Hudson third. Messrs. Sutton & Sons offered prizes for the best collection of six kinds, and the winner in the preceding class came to the front here also, being followed by Messrs. Hoe and Jackson. Prizes were also offered for collections by Messrs. Harrison & Sons, Mr. C. Warner, Mr. R. Pringle, and Mr. J. Wright, seedsmen, of Leicester. The principal winners in these classes being Messrs. Shaw, Green, and Hoe.

MISCELLANEOUS EXHIBITS.

These were a strong feature of the Show, which added greatly to its interest, and were thoroughly deserving of the recognition accorded in the shape of gold and silver medals. The great Chelsea firm of Veitch sent down a large and highly meritorious exhibit, which secured the only large gold medal awarded. The exhibit took the form of a group of plants, which occupied a large amount of space in one of the principal tents. The background was formed of Palms, and the body filled in with Crotons, Dracenas, Ferns, Nepenthes, and other choice stove plants, all of which were splendidly grown and beautifully arranged. Messrs. Cutbush & Sons of Highgate contributed a large collection of Irises, and were awarded a gold medal. Messrs. Clapham & Sons of Stockport receiving a similar award for a specimen of their rockwork. Mr. R. Lawson, gardener to Mr. G. H. Ellis, Leicester, put up a very effective and artistically arranged group, having for a central object a fountain in play, with Water Lilies beneath. A gold medal was awarded. Messrs. Cheal & Sons, Crawley; Keynes, Williams & Co., Salisbury; and Mortimer, Farnham, Surrey, staged fine collections of Dahlias, and were awarded bronze medals. Silver-gilt medals were secured by Messrs. Harrison & Sons, R. Pringle of Leicester, and W. Edwards of Nottingham. Messrs. W. & J. Birkenhead, Sale, received a silver medal for a large and varied collection of Ferns. Other bronze medallists were Mr. J. Wright (Leicester), Mrs. E. Carnall (Leicester), and Messrs. Bentley and Holden.

MALTON (YORKS).—AUGUST 9TH.

THE fortieth show of the above Society was held in the Orchard Field, Malton, on Wednesday, August 9th. For several years rain has greatly interfered with this fixture, and the Committee have had to draw from their reserve fund. Last year the whole of this was used up. During the winter a jumble sale and a series of entertainments were given, and in this way a goodly sum was raised, which enabled the Committee to make a fresh start. The weather was all that could be desired, and the attendance was good, but there was a falling off in the number of exhibitors.

We have seen a better show of plants. The Marquis of Zetland was not showing this year, which made a great difference to the central stage. For six stove or greenhouse plants in bloom Mr. Suffield, gardener to Mrs. Kitchen, Darlington, was an easy first with well-flowered specimens of *Dipladenia amabilis*, *Allamanda Hendersoni*, *Rondeletia speciosa*, *Ixora Williamsi*, *Stephanotis floribunda*, and *Clerodendron Balfourianum*. Messrs. R. Simpson & Sons, Selby, were second. The same order was maintained for three plants. For four exotic Ferns Mr. Suffield again secured first place, staging very good specimens. Messrs. R. Simpson second. In the class for six plants the order was reversed. Mr. Thomas Watson, Malton, was first for four Fuchsias; Mr. F. Newby, Knapton, second; Messrs. G. Longster & Sons were to the front for six plants for dinner table decoration, followed by Messrs. R. Simpson and Sons, and Mr. James Horsley, Norton. Mr. J. S. Upex, gardener to the Hon. H. W. Fitzwilliam, was awarded a second prize for a small Fig tree in a pot. Mrs. Wyse was first, and Messrs. G. Longster & Sons second, for two Tomatoes in pots.

The show of cut flowers was very good, though in a few cases the effect of the dry weather was noticeable. Messrs. J. Clark & Sons, Rodley, were first for twenty-four Dahlias, staging some grand blooms, closely followed by Mr. B. Stringer, Leeds. For twelve the same order held good. There was only one entry for twelve Fancy Dahlias, the prize going to Messrs. Clark & Sons. *Ocoteus* and *Pompon* Dahlias were very well shown. Mr. Hutchinson, Kirbymoorside, was first for six spikes of Gladioli; Messrs. Harkness & Sons, Bedale, second. There was a good collection of Sweet Peas; Mr. Hutchinson was first for twelve and six bunches, also for twelve annuals and eight hardy flowers. Messrs. G. Longster & Sons were second. Messrs. Harkness & Sons were first for six varieties of Roses, three blooms of each, and also for twelve Roses. Messrs. G. Longster & Sons were first both for a bridal bouquet and a hand bouquet, Mr. James Horsley being second in the latter class. For a basket of cut Roses Mr. R. Dobson was first, and Messrs. Harkness and Sons second.

Hardy fruit was not shown in quantity, and both house fruit was not so good as usual, Grapes being very poorly shown. For a tray of four varieties Mr. Upex was first; in his collection were three bunches of Madresfield Court Grape, Royal George Peach, Pitmaston Orange Nectarine, and Brown Turkey Fig. Mr. James Horsley was second with Black Hamburg Grapes, good Peaches, Apples, and Pears. Third, Sir E. Cayley, Bart.; this collection contained a very good dish of Peaches. In the class for three bunches of black Grapes, Messrs. G. Longster & Sons were first with Black Hamburg, and Mr. Upex second with small bunches of Madresfield Court. There was only one exhibit of three bunches of white Grapes, Mr. Upex staging Foster's Seedling, and was awarded a second prize. G. Cammel, Esq., Hutton Hall, was first both for green and scarlet-fleshed Melons, Mrs. Wyse being second in the latter class. For six Peaches Sir E. Cayley, Bart., was first, showing good specimens of Bellegarde; Mr. James Horsley second. For six Nectarines Mr. W. H. Wilson, Bridlington, was first, and Sir E. Cayley second.

The classes for vegetables were not very well filled; doubtless the dry weather has had much to do with this. For a tray of eight varieties Mr. Walte, a local exhibitor, secured first place for a very good collection. Mr. J. Whitehead was second, and Mr. R. Dobson third. Potatoes were well shown. Messrs. G. Longster & Sons staged a group of mixed plants, consisting of Ferns and flowering plants, also some baskets of Roman Hyacinths. There was a creditable display in the tent allotted to cottagers.

TAUNTON.—AUGUST 10TH.

THERE were no signs of diminished popularity of this Society, either with exhibitors or the general public. On the contrary, entries were more numerous than usual, and the display of plants, cut flowers, fruit, and vegetables was one of the best, if not the best, ever held in Vivary Park, Taunton. Although eight large tents were provided, the exhibits in several instances were crowded. Mr. J. Winsor is the Secretary, and his duties were discharged to the satisfaction of everybody. Perfect weather prevailed, and there was a large attendance of visitors.

In the plant department Taunton stands unsurpassed. In the class for twelve stove and greenhouse plants in flower prizes of £20, £15, and £6 were offered, and for these there were four competitors. Mr. J. Cypher was a good first, showing, as usual, large admirably flowered specimens. Mr. W. Finch, Cventry, second; and Mr. W. Rowland, gardener to W. Brook, Esq., Exeter, third. With six flowering plants Mr. Cypher was first, and Mr. W. Rowland second. Grand specimens of fine-foliated plants gained Mr. Cypher the first prize for eight; second, Mr. W. Rowland; third, Mr. M. Peel, gardener to Miss Todd, Shirley. Mr. E. Merrett, gardener to H. S. Bailey, Esq., Glastonbury, went ahead with eight exotic Ferns, the second prize going to Mr. W. Rowland, and the third to Mr. H. Godding, Taunton. There were some very creditable exhibits in the classes for single and double Zonal Pelargoniums, Begonias, Fuchsias, and Cockscombs. The best four Orchids were shown by Mr. W. Thomas. Mr. Cypher was second.

The foregoing classes were open to all, but those which follow were confined to amateurs and their gardeners. For twelve stove and greenhouse plants there were three entries. Mr. W. Rowland taking first prize with *Dipladenia amabilis*, *D. Brearleyana*, *Bougainvillea glabra*, *Clerodendron Balfourianum*, *Ixora Williamsi*, *Allamanda*, and several foliage plants. Mr. W. Thomas' exhibit, which came second, included fine specimens of *Anthurium Andreanum*, *A. Scherzerianum*, *Acalypha hispida* (Sanderi), and *Epidendrum prismatocarpum*; the third prize going to Mr. Peel. There were four competing in the class for six specimen stove plants, and with these Mr. Peel was first, Mr. J. Thomas second, and Mr. S. Kidley, gardener to W. A. Sanford, Esq., Wellington, third. The best four specimens were shown by Mr. Peel, second Mr. Thomas, third Mr. S. Kidley. The most successful with ornamental foliated plants were Messrs. Peel and Rowland. For six Ferns Mr. Peel was first and Mr. Merrett second. There were also numerous classes for different kinds of pot plants, in all of which the competition was keen and a grand display was made.

Prizes were offered in three classes for groups of miscellaneous plants arranged for effect. The first prize for that to occupy a space of 13 feet by 9 feet was won by Mr. W. Finch, who made excellent use of his plants. Very effective also was the second prize group arranged by Mr. W. Rowland, the third prize going to Mr. M. Peel. For a group 10 feet by 7 feet in oval form, Mr. Rowland was first, Mr. Peel second, and Mr. Merrett third. With the still smaller groups Mr. Rowland was first, Mr. Peel second, and Mr. S. Kidley third.

Cut flowers were numerous in both the open and the restricted sections. The best thirty-six Roses were shown by Mr. J. Mattock, Oxford; second, Mr. G. Garraway, Bath. For eighteen varieties Mr. J. Mattock was first, and Messrs. Jarman & Co., Chard, second, similar positions being occupied by these competitors with Teas. For twelve Dahlias Messrs. Cray & Sons, Frome, were first, and Mr. G. Humphries second. The best stand of Fancy Dahlias was shown by Mr. Humphries; second Mr. S. Cooper. Messrs. Cray & Sons were first for both *Cactus* and *Pompon* Dahlias, with Messrs. W. Taplin & Sons and Mr. Humphries in close attendance, all showing good blooms. The Bath exhibitor, Mr. A. A. Walters, was the most successful in the classes for Asters. Mr. T. Hamblin, gardener to E. B. Smith, Esq., staged the best Carnations. Stove and greenhouse flowers in bunches were particularly well shown. Mr. W. Thomas was easily first, Orchids figuring largely in his stand; second, Mr. H. W. Maidment, gardener to J. Macpherson, Esq., Clifton. Hardy perennials also made a grand show. For these Mr. A. A. Walters was first, and the Rev. P. W. Branker second. The Kelway medal for a collection of herbaceous flowers was won by Mr.

W. J. Villar, Taunton. In the amateurs' classes the most successful exhibitors of cut flowers were Messrs. F. H. Fox, S. Tottle, W. Thomas, S. Cooper, E. Dunster, W. James (gardener to Mrs. MacAllister), E. B. Smith, T. Hobbs, Bristol; C. Cooper, and J. Burgess.

Classes were provided and a tent set apart for table decorations, vases, and bouquets. Mr. J. Cypher was the most successful exhibitor, his table easily surpassing the other five. Mr. T. Wilkins, gardener to Lady Theodora Guest, was second; and Messrs. E. S. Cole & Son, Bath, third.

In the fruit section Taunton is once more gaining a well-deserved reputation for superiority of produce. The best of three collections of eight dishes was shown by Mr. W. Strugnell, gardener to Col. Vivian, Rood Ashton, Trowbridge, who had well-ripened clusters of Muscat of Alexandria and Madresfield Court Grapes, a fine Royal Jubilee Melon, particularly good Humboldt Nectarines, poor Sea Eagle Peaches, Brunswick Figs, Governor Wood Cherries, and Moorpark Apricots. Mr. J. Lloyd, gardener to V. Stuckey, Esq., Langport, was a close second. Mr. S. Kidley was third. With four dishes the competition was very keen. The first prize went to Mr. Mitchell, gardener to J. W. Fleming, Esq., Romsey, who staged perfect clusters of Madresfield Court Grapes, a large Hero of Lucking Melon, and fine fruits of Sea Eagle Peach and Lord Napier Nectarine. Second, Mr. S. Kidley; third, Mr. J. Lloyd.

There were several good stands of three bunches of Black Hamburg Grapes, Mr. Mitchell being first with well finished bunches; second, Mr. S. Kidley; third, Mr. T. Wilkinson, gardener to Mrs. Talbot Greaves, Clifton. In the any other black class, Mr. Mitchell was first for perfect bunches of Madresfield Court; second, the Frome Flower and Fruit Co., with the same variety; third, Mr. Cooper. For a stand of Muscat of Alexandria, Mr. T. Wilkinson was first, Mr. Mitchell second, and Mr. J. Lloyd third, all showing large, well coloured clusters. In the any other white class, Mr. Sutton, gardener to W. A. Todd, Esq., Clifton, was first for well ripened Buckland Sweetwater; second, Mr. Wilkinson, with Foster's Seedling; and third, Mr. Webber, gardener to G. F. Luttrell, Esq., Dunster. Peaches, Nectarines, Melons, Apricots, and various other fruits in season, made an attractive display.

Apparently the long spell of hot dry weather has not greatly interfered with the production of vegetables in the West of England, as they were as plentiful and good as ever in the open to all section, while the cottagers quite filled a large tent with exceptionally fine produce. Messrs. T. Wilkins, T. Harrison, gardener to Major Aldworth, Yeovil; J. Blackmore, gardener to Sir T. D. Ackland; S. Kidley, Webber, J. Smith, and Wyld were the most successful competitors.

Messrs. R. Veitch & Son, Exeter; J. Kelway & Sons, Langport; B. R. Davis, Yeovil; Jarman & Co., Chard, and R. Godfrey, Exmouth, all exhibited various specialities in their well-known excellent manner.

HARBORNE GOOSEBERRY.—AUGUST 12TH, 13TH, AND 14TH.

THE eighty-fifth annual Show was held on the above dates. The heaviest berry-recorded in the annals of the Society was exhibited by Mr. William Barton (a noted grower) from the Waterloo Gardens in 1875, named "Bobby," weighing 34 dwts. 20 grs., and which variety has held a prominent position up to the present time. The published manual of the Society is not at hand to collect a selection of the heaviest berries from the inception of the Society. The blackbirds and thrushes have been so persistent in their attacks that there was a falling off as compared with the number of berries last year, though the crop generally in the district was not under average. In connection with the show of Gooseberries other exhibits are invited as an additional attraction, and on the recent occasion Mr. George Oash contributed an uncommon example of Apple fruiting, being a small branch of Lord Suffield laden with a dozen fine fruits, closely packed, inasmuch that they were in touch with each other. This example was also grown in one of the Waterloo Gardens. Appended is the list of exhibits:—

PREMIER PRIZE FOR THE HEAVIEST SINGLE BERRY.

	dwts.	grs.
1st, Mr. E. Withers' Ringer	24	0
Messrs. J. Waldron and E. Boraston equal second with Bobby and Thatcher '	21	5

MAIDEN PRIZE.

Mr. George Stacey's British Oak, twin berries ...	12	6
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TWIN BERRIES.

Mr. E. Withers' Plunder	28	18
Mr. W. Jones' Stockwell	26	0
Mr. J. Waldron's Bobby	25	18

RED BERRIES.

Mr. E. Withers' Bobby	21	13
Mr. Hill's London	21	0
Mr. A. Wise's Blucher	19	19
Mr. G. Cash's Dan's Mistake	18	18
Mr. G. Gibbs' Dr. Woolley	17	6
Mr. W. James' Lord Derby	16	11

YELLOW BERRIES.

Mr. E. Withers' Ringer	21	0
Mr. W. James' Leveller	20	18
Mr. E. Boraston's Thatcher	18	0
Mr. Hobday's Mount Pleasant	16	0
Mr. Richards' Lady Popham	15	0
Mr. G. Cash's Unknown	12	0

GREEN BERRIES.

Mr. W. James' Surprise	21	0
Mr. Hill's Stockwell	20	0
Mr. E. Withers' Bobby	18	0
Mr. Waldron's Shiner	15	18
Mr. E. Boraston's Matchless	15	18
Mr. G. Cash's Plunder	14	16

WHITE BERRIES.

Mr. Hill's Transparent	22	6
Mr. E. Withers' Faithful	19	18
Mr. E. Boraston's Antagonist	17	0
Mr. Waldron's Fascination	16	6
Mr. W. James' Careless	14	0
Mr. Parson's Postman	18	23

TWELVE BERRIES—RED.

Mr. Withers, with Bobby	224	6
Mr. Waldron, with Bobby	194	0
Mr. E. Boraston, with Bobby	166	6

TWELVE BERRIES—YELLOW.

Mr. E. Withers, with Leveller	215	11
Mr. W. James, with Leveller	211	0
Mr. E. Boraston, with Leveller	201	1

TWELVE BERRIES—GREEN.

Mr. W. James, with Surprise	195	18
Mr. E. Withers, with British Oak	191	6
Mr. E. Boraston, with British Oak	187	0

TWELVE BERRIES—WHITE.

Mr. E. Withers, with Faithful	202	10
Mr. T. Richards, with Transparent	178	0
Mr. E. Boraston, with Faithful	167	0

Numerous other exhibits of berries in twelves, twins, and single classes were awarded prizes of 4s. each, the exhibits in the Show amounting altogether to upwards of sixty.

THE YOUNG GARDENERS' DOMAIN.

LAYERING CARNATIONS.

THE propagation of Carnations by layering the growth is a simple operation when once learnt, and as some hundreds of thousands of plants are operated on yearly I thought a few practical hints would be helpful to many young readers who have not yet had the opportunity to do this interesting work. When making a start the first thing to do is to prepare the soil. It may consist of equal parts of loam, leaf soil, and Mushroom refuse, and a good quantity of sand; road drift will answer equally as well. If the loam is light and sandy of course less leaf soil and manure should be used. Pegs will be necessary to fix the layer in position. These may be made from old birch brooms, or if some small stiff galvanised wire is at hand, suitable pegs may be made of this, and will last years. Cut up a quantity into 5 inch lengths; one end of the wires should be bent over to form a hook 1½ inch long, these, when inserted in the ground with the hooked part over the top of the layer, will hold it secure until rooted.

The basal leaves of the shoots should be removed, and the shoot must be cut half through below a joint, bringing the cut in an upward direction through the joint, forming a sort of tongue 1 inch long. This tongue must be kept open by pegging it down into the prepared soil, which should be placed 2 or 3 inches thick under the growths, that are to be layered. When a plant is finished thus, put more fresh soil to the depth of 1½ inch over the top of the pegs and the depressed part of shoot. Water must be given each afternoon when the weather has been hot and dry, using a fine rosed watering pot. When the layers are rooted well they should be severed from the parent plants, and either placed in 3-inch pots and wintered in cold frames ready for planting outside in spring, or in their permanent quarters.

Narrow borders are most suitable. The plants may be placed at not less than 15 inches asunder, and if a space of 2 feet is allowed after every fourth row it will be an advantage, as this allows ample room for gathering the blossoms and layering the plants the succeeding year. If beds of Carnations are formed in the pleasure grounds they should be carpeted with some low-growing plant, which blooms before and after the Carnations. *Mimulus Harrisoni* is very effective when used as a carpeting for the old Clove Carnations. *Violas* and *Mignonette* are also useful for this purpose.

Pinks may be increased by pipings taken off old plants, and if cut below a joint, and dibbled in sandy soil under hand-lights in a shady position, no difficulty will be experienced in rooting them. Division of the plants may also be resorted to. The divided parts must be planted deeply, preferably on a north border in September. The resulting stock should be allowed to remain a year without disturbance, after which they may be planted where they can flower without molestation for at least two years, especially so when they are required to ramble over and hide defective stone edgings to walks and borders.

Malmesdon Carnations are best layered in a frame having a good depth of soil. These must be layered when flowering is finished. They should be turned out of their pots, and the ball of soil sunk to the required depth in the frame, with plenty of fresh compost round it,

following the same method as advocated for border varieties. The frame must be kept somewhat close and shaded until the layer has commenced growth, when less shading and more air must be given. When rooted potting should take place. Some of last year's layers ought now to be repotted to 7 and 8-inch pots, or even larger, and with careful watering and shading in bright weather these will make handsome plants for next season's flowering. Never water the plants in winter unless thoroughly dry.—FOREMAN X.

A PLEA FOR WATSONIAS.

THE Iris family yields us a large number of handsome plants, and not the least beautiful amongst them are the varied and brilliant Watsonias. Irises, Ixias, Sparaxis, and Gladioli are familiar inmates of our gardens and houses, but Watsonias do not at present occupy such a prominent position. We are familiar with these flowers, because like many other similar plants, large quantities are grown in some of the warmer districts on the Continent, whence flowers are despatched to our markets in considerable numbers, and are occasionally also seen at London exhibitions. The fact is, that though Watsonias will grow out of doors satisfactorily in warm borders in the south of England, they will not produce pleasing results unless they can be so favoured in position, and probably a few injudicious attempts to establish them in unsuitable places have brought them into bad favour with some cultivators. In a cool house, however, such as a greenhouse, conservatory, or even in a cool frame, where they can be secured from frost, and not exposed to heavy cold rain, which does them the most injury, they will give little trouble, and yield a profusion of flowers that are most acceptable for cutting. In warm sheltered borders of well-drained soil they can also be relied upon, and in whatever way they are grown the chief point needing attention is the provision of light sandy soil, with very little manure, and thorough drainage.

A great number of varieties are now cultivated, differing considerably in colour and size of flower. The principal species is *Meriana*, and from this many forms have been obtained; the majority, indeed, of the best varieties grown have sprung from this species. *Coccinea* is probably one of these varieties, as it closely resembles the type in the form of the flowers—a funnel shaped and slightly arched corolla; but the colour, a brilliant scarlet, is much more effective than most of the others. Several other varieties, differing in shades of red and scarlet, are also grown, and some are obtainable under names.

The most beautiful and distinct of the other species are *humilis*, *fulgida*, *rosea-alba*, *rosea*, and *iridifolia* O'Brieni (fig. 33). All are worthy of more extended cultivation, and should be added to every collection where bright and charming flowers are prized.



HARDY FRUIT GARDEN.

Watering Wall Fruit Trees.—Maintaining trees, whether bearing a crop or not, moist at the roots, is essential to their health, and in a large measure their freedom from insect and other enemies. Green and black fly often attack trees simply because their stamina has been reduced through dryness at the roots, and mildew is frequently, if not always, due to the same cause. In properly moistened soil healthy growth will be produced. This will require regulating by judicious thinning, stopping and training, and good crops will follow. When the soil is found to be dry give copious waterings, sufficient to reach the lower roots. Then apply a mulching of manure to help to retain the moisture near the surface. When roots are unable to find moisture in the upper layers of soil they descend into the subsoil, thus causing gross growths and throwing trees into a state of unproductiveness.

Regulating Growth.—Young trees will need considerable attention in duly training in the new growth as made. When growing vigorously lay in as much wood as possible without crowding. The wall will be furnished sooner, and the free extension tends to subdue the vigour. In trained trees, such as cordons horizontally trained, bushes and pyramids in the open, the leader of each main branch may extend unchecked so long as the growth is made in full light. Nail in as straight as possible in the direction the branch is trained. In extension training, which is best for Peaches, Nectarines, and Morello Cherries, an opportunity is afforded of selecting the best shoots. At the same time cut out superfluous growths, whether they are of a weak character or of a sappy nature, as some shoots are which start direct from main branches. It may not be possible to do without all shoots of the latter description, especially in young trees, but do not choose the most luxuriant for retention, and afford them sufficient space for ripening.

Protecting Ripe Fruit.—Morello Cherries, Currants, Gooseberries, and Plums when ripe or approaching that stage are very tempting to blackbirds and others. The best possible way of protecting the fruit from their depredations is to hang fish nets in front of or over the trees,

making the nets secure so that the birds cannot work their way underneath them. Nets do not exclude light and air. The latter is especially necessary to prevent the accumulation of moisture about the fruit, and its liability to damp.

Wasps are troublesome when they have nests in the vicinity. They may be destroyed by pouring tar down the holes when these can be found. Another method is to stupefy them with cyanide of potassium or sulphur fumes, but the nests must be dug out and destroyed. When the nests cannot be found secure some wide necked bottles, and half filling them with beer or sugar and water, and hang these about the trees for attracting wasps and flies. Very choice samples of Peaches, Nectarines, or Pears should be enclosed in muslin bags.

Gathering Ripe Fruit.—Apricots, Peaches, and Nectarines ought to



FIG. 33.—WATSONIA IRIDIFOLIA O'BRIENI.

be gathered before the fruit falls, but in the event of it doing so nets may be hung so as to catch the fruit. Gather early Plums as they ripen, and before woodlice or birds attack them. Early Pears, such as Jargonelle, Beurré Gifford, and Citron des Carmes must be gathered before they are fully ripe.

Currants.—After the fruit of Red and White Currants has been gathered from bushes or wall trees, some benefit will be derived by them if a thorough cleansing is adopted. First remove superfluous wood, thinning out crowded branches and shortening side shoots where this has not been done. Playing upon the trees with the garden engine cleanses them effectually, and at the same time moistens the roots. Black Currant bushes simply require the old bearing wood cut out; any young shoots of sufficient length and vigour may be retained, but the nearer the base of the bushes the better. Keep the trees shapely by annual thinning of the growths, not shortening any young wood.

Strawberries.—*Young Plantations.*—These planted in early spring will be well established and producing runners freely, which must be constantly cut off, and the ground kept clean by hoeing.

Forming New Beds.—The present month is the most suitable time for planting fresh beds in order to secure a good crop of fruit next season.

It is usual for the plants to be specially prepared for this purpose, so that healthy and well-rooted plants only may be inserted. Those rooted in pots or on turves are the most certain to do well, but they must not have been starved or stunted from want of water. Rooted layers from the open ground are likely now to be well furnished with roots, but they are better lifted and planted when the ground is moist. Thoroughly well prepared ground must be selected, and made firm.

Raspberries.—Cut out the old fruiting canes and weak growths of the new ones. There is no advantage in retaining too many, four to six of the strongest proving ample for producing a good crop. Perennial weeds of a deep-rooting character should be forked up, after which a liberal mulching of manure may be laid around the stools.

Outdoor Vines.—Keep new canes neatly nailed close to wall or trellis. Stop the fruit-bearing laterals a few joints beyond the fruit, and give the roots a copious watering, followed by liquid manure and a mulching.

FRUIT FORCING.

Cucumbers.—Encourage the plants for autumn fruiting to make sturdy growths by adding fresh soil, affording abundance of but not too much water at the roots, with a moist genial condition of the atmosphere by syringing at closing time, and damping the floor and walls occasionally. Sufficient fire heat must be employed to maintain a temperature of 70° to 75° by day, and prevent it falling below 65° at night. Old plants should have exhausted growths removed, and others where likely to be crowded thinned, so as to admit of light and air, securing a sturdy, solidified growth and a succession of bearing wood. Where this is attended to, some of the old soil removed and fresh supplied, the plants will produce new growths and fruit for a considerable time, but clean fruit cannot be had from plants cumbered with old crowded growths and leaves. This plan is only advisable where the supply of fruit must be continued from the old plants.

In other cases it is better to remove the old plants and put out strong young ones in fresh compost. Everyone has not the means of doing this without a break in the supply of fruit, which in most establishments cannot be dispensed with. Where Cucumbers are required in winter, and the means are confined to one house for producing them, seed should be sown without delay, if not already done, in order to have strong plants for placing in their fruiting quarters by the middle of September.

Plants in frames should have the old growths cut out, young taken in their place, and some layered at the joints, so as to secure fresh roots and a sufficient supply of nutriment. This, and the removal of bad leaves, will keep the plants fruitful for some time longer, crowding being avoided by thinning and pinching the growths. With due attention as required with linings of sweet fermenting material as the nights become cold, so as to prevent the temperature falling below 60° or 65° in the morning, and if mats are placed over the lights after the sun leaves the frames, and removed shortly after the sun has risen, a late supply of clean fruit will be secured. The crooked and gummed examples so prevalent late in the season are mainly the result of cold and unfavourable conditions of growth, and are certainly not wholesome. The syringe should be employed about 3 P.M. on fine days. If mildew appear dust with flowers of sulphur, maintaining a somewhat freely ventilated atmosphere. Black aphides are frequently troublesome at this time of year. These and thrips succumb to repeated fumigations with tobacco, taking care to have the foliage dry, the smoke cool, and not give an overdose.

Peaches and Nectarines.—*Lifting Early Forced Trees.*—For very early forcing no method succeeds better than a few select varieties in pots, such as Alexander or Waterloo, Early Louise, Hale's Early, and Stirling Castle Peaches, with Advance, Cardinal, Rivers' Early, and Lord Napier Nectarines. These afford a supply of fruit during a period of four to six weeks, and, if only a few dishes, are welcomed in April and May. The trees should now have the wood ripe and the buds plumped. If they are in small pots, and a shift is considered necessary, repotting must be attended to at once, whilst the leaves are on the trees, being content with removing the loose soil and drainage, shortening any long bare roots, and only giving such pots as will admit of about an inch of fresh soil being rammed tightly round the balls. With judicious watering the trees soon recover the potting, especially if sprinkled occasionally, and shaded from powerful sun for a few hours each day for a short time; but this is only necessary in very bright weather, and when the roots have been much interfered with. The trees should be continued under glass until the leaves are all down, when, placed on and plunged in ashes outdoors, they will not take any harm, but profit by the cleansing and refreshing autumnal rains, and be in condition for housing early in December, so as to swell their buds gradually, and be in flower by the new year or soon after.

The planted out trees not in a satisfactory condition should be lifted as soon as the foliage gives indications of falling. It will not matter about a few sappy laterals, these will tend to the formation of roots. Soil should be obtained in readiness so that work of this kind can be performed with the utmost promptitude. Where new borders have to be made provide clean drainage in different sizes—rough for the bottom, and smaller for the upper part. The soil may consist of any good loam, preferably strong and calcareous, nothing being better than the top 3 or 4 inches of an old pasture overlying limestone or chalk, and if interspersed with ferruginous gravel or flints all the better. Such will grow Peaches and Nectarines to perfection without any admixture whatever. If, however, the soil be light, it will be advisable to add a sixth or more of marly clay as finely divided as possible, preferably dried and pounded. Any deficiency of calcareous matter may be overcome by an addition of chalk to light soil, and of old mortar rubbish to heavy soil. Ordinary

garden soil may have a cartload of wood ashes or charred refuse added to every ten, always avoiding any uncharred portions.

New borders must have efficient drainage, the bottom of the border being concreted if the soil beneath be unfavourable, or better, laid with bricks in flat and run with cement, the border being enclosed in walls, so as to confine the roots. Drains must be provided with proper fall and outlet, rubble being placed over them a foot thick, the roughest at the bottom and finest at the top, and if covered with a layer 2 or 3 inches thick of old mortar rubbish, the drainage may be considered sound for an indefinite period. A border one-third the width of the trellis will be sufficient in the first instance for young trees (two or three years trained against a wall or under glass), and 24 inches depth of soil is ample. The compost should be made firm, as Peaches and Nectarines are healthy and fruitful in proportion to the compactness of the soil. This has special application to soils inclined to be light and porous.

Succession Houses.—Trees that ripened their crops in July and at the beginning of this month should have the wood that has carried fruit, not being extensions, cut away, and any wood not required for next year's bearing or for the extension of the trees also removed. Weakly and exhausted parts ought, as far as possible, to be cut out, and the younger growths given advantage of their place. This will maintain a succession of bearing wood capable of producing large fruits, admit of the free access of light and air, and of the cleansing of the foliage by water or an insecticide. Air should be admitted to the fullest possible extent. There must be no lack of moisture at the roots, giving a good watering, if necessary, or trees that are weakly will be assisted in plumping the buds and storing nutrient matter with liquid manure.

Trees ripening their fruit will need water at the roots, and moisture must not be withheld from the atmosphere, an occasional damping of the floor or border, especially on fine days, being necessary for the benefit of the foliage. If the weather be cold and wet a genial warmth in the pipes, especially by day, so as to admit of a circulation of air, will be necessary for the satisfactory ripening of the fruit. A temperature of 60° to 65° at night will be sufficient, and 70° to 75° by day, air being afforded more or less constantly. If the fruit ripens too rapidly, a double thickness of herring net placed over the roof-lights will break the fierce rays of the sun, and not only retard the ripening, but insure the fruit finishing more satisfactorily than when exposed to the direct rays of the sun.



QUEENLESS STOCKS.

BEFORE destroying any surplus queens the bee-keeper may have it is advisable to examine all the colonies in the apiary to ascertain if each is headed by a fertile queen. It is much easier to carry out this operation early in the autumn whilst the weather is warm than to leave it until a lower temperature prevails, and when surplus queens are difficult to obtain. Queenlessness is not so easy to detect in straw skeps as in frame hives, but if the bees are carrying in pollen at this season it is a pretty sure guide that there is brood in the hive. This cannot always be depended on, but if the skep is lifted off its stand and brood is observed in various stages of development, the stock may be relied on if well supplied with stores to throw off an early swarm the following spring.

We have recently examined several stocks in frame hives which were queenless. But in each instance where this occurred it was nucleus hives, where young queens had been reared, that were in this condition, an unusual number of young queens having this year failed to become fertilised, and have disappeared. It is a well-known fact that young queens when first hatched, and previous to becoming fertilised, fly in and out of the hives similar to the other bees. If the hives are placed near to each other they often fail to return to their proper hive, and alight on the floorboard of another colony. If such is the case they are at once seized by the rightful inmates of the hive and not allowed to enter. The queen is seized in a different manner to an ordinary bee, and balled. In this manner she is soon destroyed, as they do not give her a chance to escape. Birds, too, often take bees whilst on the wing, so it is not surprising that young queens are often lost whilst taking a flight.

Stocks that have been queenless for some time will be weak in bees, and it is useless introducing a queen to a weak stock at this season unless they are also strengthened by the addition of other bees. If this is done a prosperous colony of bees may soon be built up.

KILLING DRONES.

The slaughter of the drones has been delayed much longer than usual this season. This is probably owing to the fine weather that has prevailed and the late flowering of the White Clover and other bee herbage. In frame hives where drone breeding is curtailed this is not so marked; but in some straw skeps we recently saw quite half the bees were drones. It is still believed in some districts that drones make the wax and the worker collects the honey, and it is somewhat

difficult to make some old-fashioned bee-keepers we have met believe that the drone is the male bee, and directly its functions are over and food is becoming scarce the workers turn them out of the hive and destroy them.

One sure sign of a colony having a fertile queen is the turning out of the drones. A queenless stock never kills off the drones, although they may be on the verge of starvation, instinct having taught them that without the drones it would be impossible to obtain a fertile queen. It is interesting to observe the activity of the bees after a queen has been given to them after being without one probably for several weeks, instead of remaining about the entrance to the hive in a quiet listless manner. The drones, too, will be at once killed off. During the past few days we have united some driven bees of stocks of this description; the following morning the drones were found turned out on the alighting board. During a spell of dull weather in the height of the season drone brood is often turned out of the cells, but is replaced again directly fine weather sets in.

—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," S. Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Cypripedium venustum (J. C. S.).—The leaves are like, if not those of, the species named. The best soil for it is a mixture of two parts good peat, one part of chopped sphagnum, one part of thoroughly decayed leaf mould, and a portion of sharp silver sand. In potting an important point for consideration is drainage. This must be thoroughly effective, for, as the plant has no pseudo-bulbs to sustain it, it must not be dried off, as many other Orchids are, during winter, and if the drainage is defective the roots are sure to decay and the leaves shrivel. *Cypripedium venustum* is a cool-house species, native of Nepal, and flowers during the winter.

Pear Tree Dying (Y).—The leaves do not reveal any malignant micro-organism, and the wood of the shoots is quite sound, also the pith and bark. The seat of the disease or injury causing the sudden browning and withering of the leaves is situated lower down, perhaps at the junction of stock and scion, which is sometimes affected by a fungus, the mycelium living in the cambial layer, or between the inner bark and outer wood, and girdling the stem of the scion causes the sudden collapse of the foliage, commonly termed "fire blight." This has been regarded as due to "bacteria," but the bacteria-like organisms are nothing more than the organisms by which the fungus produces a ferment, and thus breaks down living cells or tissue of the host plant. An excellent example was forwarded to us last season, and we were able to trace the work of the fungus in the junction part of the stock and scion till the latter was girdled and the tree had died, apparently from "fire blight." Sometimes, however, the fungus attacks the roots and spreads upwards in the stem to the point named and there girdles the stem, then the tree dies. We have also known the roots destroyed by an overdose of liquid manure, when the foliage suddenly collapses. In some instances, happily uncommon, similar disaster arises from poisonous substances purposely applied by evil-disposed persons, but of that, in this case, we can form no opinion.

Peaches and Nectarines for Early and Successional Houses (Practice).—Early house—Peaches: Hale's Early and Royal George; Nectarines: Early Rivers and Sanwick Elrige. Succession house—Peaches: A Bec and Bellegarde or Dymond; Nectarines: Lord Napier and Pineapple.

Pruning Gooseberries and Currants (O. F.).—The bushes should be left alone until the leaves have fallen, then they must be pruned. The old Gooseberry bushes may be improved by thinning the branches judiciously, and encouraging young wood another year. Similar remarks apply to Currants, especially black, it not being possible to have good fruit without young wood. They also require liberal manuring.

Pruning Clematis Jackmanni (Idem).—The only thing you can do now is to thin the bushy growths, so as to secure thoroughly ripened wood, and in the winter or early spring cut the growths down to a few buds from their base. By this procedure you ought to secure plenty of both growth and flowers, the situation being open or well exposed to the sun.

"Scum" from a Pond for Light Garden Soil (J. A. C. C.).—The scum like a green seaweed, which blanches when dried, would be valuable for putting on light garden soil as manure, when decayed, both as a conservator of moisture and as a source of nitrogen and other nutritive elements. We have used similar after mixing with lime, one part best chalk or limestone (not magnesian), freshly burned from the kiln, to twenty parts of the "scum"—conferva, placing the latter in layers about 4 inches thick, and sprinkling the lime on each layer. In about six weeks the heap was turned top to bottom and outside to inside, and in another six weeks the compost was used as a top-dressing both in the garden and on grass land. According to Dr. Emil Wolff, the "scum" contains about 10 per cent. of soda in its ashes, and 2½ per cent. of chlorine, the latter probably combined with the soda in the plant as common salt, hence the smell of salt. As vegetable mould, it would probably be an excellent dressing for Asparagus beds. We have found nothing better for these than the debris of the rubbish heap, all the woody portions being burned, and the ashes mixed with the compost.

Worms in Soil (A. L. J.).—The white worms live on dead and decaying vegetable matter, and perform a useful office in the economy of nature by resolving organic matter more speedily into inorganic compounds—the essential food of plants. They are also a cause of "sickness" in various living plants by sucking the root-hairs and tender epidermal root tissues, setting up decay. There are several species of white worms. Those you sent in the leaf mould are named *Eucyrtus* [Buckholzi], and attack the roots of Clover, Peas, and other leguminous plants, also Cucurbitaceae, such as Cucumbers, Melons, and Vegetable Marrows. They are about as large to the unaided eye as eelworms are when seen by the aid of a lens enlarging 200 diameters, or about 1½ inch in length. Air-slaked lime, which is only partially carbonate of lime, not quite like chalk or whiting, will kill them, but not in the proportion of a 6-inch potful to a barrowload of soil, or about 1 per cent. 1 in 100, for the lime scarcely permeates through so large a mass, while it loses causticity rapidly on account of the large amount of organic matter present. Two and a half per cent. we find necessary, but as this may be injurious to some plants, we frequently scald the mould some time in advance of using, and thus destroy all contained pests. Lime water is also effective, saturating the soil. The white worms have no connection with eelworms, except as belonging to the great division of the animal kingdom called Vermes or Annelida.

Hydrangea hortensis (Florist).—We presume you mean the growing of this plant in a dwarf state for producing one fine head of flowers. There are two ways:—1, Cuttings taken in spring from young growths that are not bearing flowers, inserting them in small pots singly, and plunged in a close warm frame. When rooted the plants are hardened, grown in low houses or pits during the summer, and well ripened in the autumn by exposure outside. 2, Let the old plants grow all the season, and in August select the tops of the most promising—the strongest, sturdiest, and most prominent shoots; make these into cuttings, which insert singly in 3-inch pots, and plunge in a little bottom heat, but not in an enclosed frame. The object is to encourage the formation of roots only, and when the cuttings are rooted gradually harden, and expose the plants to full sunshine and plenty of air in the autumn, to insure thorough ripening. When the leaves fade water should be withheld, and the plants kept dry (but not so dry as to cause shrivelling of the wood) in a cool greenhouse, or plunged in a frame, all the winter. About February, or earlier if desired, they are transferred to 5 or 6-inch pots, and placed in a temperature of about 55°. The plants quickly start into growth, and the shoots soon show the embryonic flower heads that have been formed in the buds the previous season, the corymb of flowers usually appearing after the formation of the fourth pair of leaves. All the plants, however, do not show for flower, as they may not have been sufficiently strong, but they will do so, if at all, at the fourth pair of leaves. These non-flowering plants may either be thrown away or kept for flowering another year. The late summer-rooted cuttings produce useful dwarf flowering plants in the spring or early summer, not exceeding 1 foot in height. Spring-rooted cuttings grown in pots for the next year are much stronger and taller in proportion. By the methods given the old plants are thrown away after flowering, unless required for bush specimens or for supplying cuttings, when they may be cut down, repotted, and grown in pots, or be planted out in the open air. A new stock, therefore, should be propagated annually. When the pots are filled with roots copious supplies of water are needed as growth proceeds, with occasional applications of clear soot water, for securing rich green foliage and supporting noble heads of flowers.

Early Vegetables on Fruit Borders (Scotland).—It is more or less detrimental to fruit trees to crop the borders with early Potatoes, Cabbages, and other crops: but we have practised it for many years, and had good crops of both vegetables and fruits. The thing is not to disturb the roots by cropping too near the stems of the fruit trees, and manure for the vegetable crops liberally, but not too excessively, so as to induce rank growth in the fruit trees and poor crops of fruit.

Azalea indica from Cuttings (W. K. E.).—Most of the plants cultivated in this country are obtained by grafting choice varieties on a vigorous growing common Azalea, and in this manner they can be the most quickly grown to a serviceable size. Cuttings are not difficult to root, and own-root plants are usually the dwarfiest in habit. The cuttings should be made from young or this season's growth, which is now sufficiently firm for the purpose. They ought to be about 3 inches long, cut to a joint, and the lower leaves trimmed off. A bell-glass will be needed for covering them, and the pot used should be just large enough to enclose this inside of the rim. Well drain the pot, fill firmly with sandy peat, and finish with a thick surfacing of silver sand. Insert the cuttings thickly, taking care that they touch the bottom of the holes, and to fix them firmly, then give water through a fine rose and cover with the bell-glass. A gentle heat, or from 55° to 60°, is necessary, and the cuttings must be carefully shaded. After they are rooted, which is a slow process, remove them to a cooler house, and gradually remove the bell-glass. Pot singly in thumb pots, and keep them in a close frame till they have rooted into the fresh soil (fine peat and sand), pinch out their points, and keep them steadily growing, a larger shift being given as needed.

Grubs in Raspberries (Journymen).—You should have sent specimens. The insect that is found in the larval state in the fruit of the Raspberry is probably the grub or larva of the Raspberry beetle (*Byturus tomentosus*). It often causes great havoc, sometimes destroying, or rendering the whole crop worthless. The beetle is about one-sixth of an inch long by half as much broad, reddish brown, covered with grey pubescence; eyes black, limbs dull yellow. The females bore holes in the flower buds, and the larvae live in the fruit, which generally ripens. When mature, the larvae shelter themselves in cracks of the bark on the Raspberry canes and there form cocoons and become pupae. The beetles emerge in spring, and the females ascend the canes to deposit their eggs. Then is the time to destroy them. Sheets spread on the ground in the daytime and the plants shaken over them after dark capture great numbers, but some use shallow wooden trays smeared with gas tar round the sides, which prevents the escape of the insects, the trays being placed under the bushes, which are shaken over them after dark. The insects thus captured are easily killed by pouring boiling water on them in the trays. The females, however, sometimes remain on the plants by day, hence sheets should be spread on the ground without disturbing the plants, and the bushes then sharply shaken, which will cause them to fall on the sheets, where they can readily be captured and destroyed, as they are better seen by daylight than lamplight. Generally the beetles harbour by day under clods, and are very fond of hiding under pieces of old tree bark. These laid on the ground and seen to daily in the spring are a good means of riddance. The catching should commence directly the flower buds appear, and be continued until most of the fruit is set. The fertilised females are most abundant when the flowers are showing colour, but they feed on the plants before that time, and that is the time to set about their destruction at night.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (A. W.).—1, *Galeopsis Tetrahit*; 2, *Crinum amabile*; 3, *Diplacus glutinosus*; 4, *Gypsophila elegans*. (Amateur Reader).—1, *Kaulfussia amelloides*; 2, *Ophiopogon jaburan variegatum*; 3, *Lilium lancifolium rubrum*; 4, *Spiraea Menziesii*; 5, *Sedum pulchellum*; 6, *Fuchsia procumbens*. (G. H. B.).—1, *Gymnogramma chrysophylla*; 2, *Adiantum rubellum*; 3, *Pteris serrulata cristata*; 4, *Lygodium scandens (japonica)*; 5, *Polypodium aureum*; 6, *Asplenium bulbiferum*. (W. G. C.).—1, *Salaginella caesia*; 2, *S. denticulata*; 3, *Lastrea filix-femina*; 4, *Odontoglossum crispum*, very poor form.

TRADE CATALOGUES RECEIVED.

- W. Bull, Chelsea.—*Bulbs*.
 Ellwanger & Barry, Rochester, N.Y.—*Strawberries and Bulbs*.
 W. Fromow & Sons, Chiswick.—*Bulbs*.
 E. H. Krelage & Son, Haarlem, Holland.—*Bulbs*.
 J. R. Pearson & Sons, Lowdham Nurseries, Nottingham.—*Autumn List*.
 L. Spaë-Vandermeulen, Ghent.—*Special Trade List*.
 Sutton & Sons, Reading.—*Bulbs*.
 J. Veitch & Sons, Ltd., Chelsea.—*Bulbs, Strawberries*.

COVENT GARDEN MARKET.—AUGUST 16TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2 0	3 0	Melons each	1 0	to 3 0
Cherries, $\frac{1}{2}$ sieve,	9 0	14 0	" Rook	2 0	4 0
" cooking, sieve of 24 lbs.	4 0	5 0	Nectarines, per doz.	3 0	9 0
Currants, red, per sieve ...	5 0	6 0	Peaches, per doz.	3 0	12 0
" black, per sieve	5 0	6 0	Pears, Californian, case...	8 0	6 0
Figs, green, per doz.	3 0	6 0	" French Williams',		
Gooseberries, sieve	2 9	0 0	" 86 to 56 in a case	4 0	5 0
Greengages, box of 40 to 48	1 3	2 3	Pines, St. Michael's, each	3 0	6 0
Grapes, black	0 6	8 0	Plums, English, per sieve	6 0	7 0
Lemons, case	14 0	20 0	" Californian, case...	4 0	8 0
Greengages, French, sieve	9 0	12 0	Raspberries, doz. punnets	6 0	9 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1 0	to 2 0	Leeks, bunch	0 2	to 0 0
Aubergine, per doz.	1 6	2 0	Lettuce, doz.	1 8	2 0
Beans, $\frac{1}{2}$ sieve	2 6	3 6	Mushrooms, lb.	0 6	1 0
" Longpods, $\frac{1}{2}$ bushel	1 0	0 0	Mustard and Cress, punnet	0 2	0 0
" Scarlet, sieve	2 6	3 0	Onions, bag, about 1 cwt.	4 0	4 6
Beet, Red, doz.	0 6	0 0	Parley, doz. bunches	2 0	4 0
Cabbages, per tally	7 0	0 0	Peas, per bushel	3 0	6 0
Carrots, per doz.	2 0	8 0	Potatoes, new, cwt.	5 0	8 0
Cauliflowers, doz.	2 0	8 0	Shallots, lb.	0 8	0 0
Celery, n-w, per bundle ...	1 9	0 0	Spinach, per bushel...	0 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	4 6
Endive, doz.	1 6	2 0	Turnips, bunch...	0 8	0 4
Herbs, bunch	0 8	0 0	Vegetable Marrows, doz.	1 0	1 6

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8 0	to 4 0	Marguerites, doz. bnchs.	3 0	to 4 0
Asparagus, Fern, bunch...	2 0	2 6	Mignonette, doz. bunches	4 0	6 0
Carnations, 12 blooms ...	1 0	2 0	Montbretia, per bunch ...	1 0	1 6
Eucharis, doz.	4 0	6 0	Oreola, var., doz. blooms	3 0	18 0
Gardenias, doz.	1 6	2 6	Pelargonium, doz. bnchs.	4 0	6 0
Geranium, scarlet, doz.			Roses (indoor), doz...	2 0	8 0
bnchs.	4 0	6 0	" Red, doz.	1 0	2 0
Lilium Harrisii, 12 blooms	3 0	4 0	" Tea, white, doz.	1 6	2 6
" longiflorum, 12 blooms	4 0	6 0	" Yellow, doz. (Perles)	2 0	8 0
Lily of the Valley, 12 sprays	0 0	10 0	" Safrano, doz.	2 0	2 6
Maidenhair Fern, doz.			Smilax, bunch	3 0	4 0
bnchs.	4 0	6 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	to 36 0	Foliage plants, var., each	1 0	to 5 0
Aspidistra, doz.	18 0	36 0	Fuchsia, doz.	4 0	6 0
Aspidistra, specimen	15 0	20 0	Heliotropes, doz.	4 0	6 0
Boronia	12 0	18 0	Hydrangeas	6 0	10 0
Crotons, doz.	18 0	30 0	Lilium Harrisii, doz.	12 0	18 0
Dracena, var., doz.	12 0	30 0	Lycopodiums, doz.	3 0	4 0
Dracena viridis, doz.	9 0	18 0	Marguerite Daisy, doz.	6 0	8 0
Erica, various, doz.	30 0	60 0	Myrtles, doz.	6 0	9 0
Euonymus, var., doz.	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz.	4 0	18 0	" specimens	21 0	63 0
Ferns, var., doz.	4 0	18 0	Pelargonium, scarlet, doz.	4 0	6 0
" small, 100	4 0	8 0	Stocks	4 0	6 0
Ficus elastica, each ...	1 6	7 6			

Bedding out plants in variety from 8s. doz.



THE AGRICULTURAL PUZZLE.

WELL, we will call it "difficulty." What is the chief difficulty which confronts the farmer at the present day? It is not the difficulty of making ends meet; it is not that of keeping his live stock healthy and thriving. No; it is that of getting the work of the farm done at all—that is to say, in a workmanlike way. The question of cost, which in other businesses is the first consideration, has here to take a second place, but in itself is a matter serious enough, for if the labourer were to take his wages out in Wheat to-day at market price he would receive three times as much per week as he would have done forty years ago.

The price of Wheat has fallen more than any agricultural commodity, but other articles have declined in price as well, and we fancy that a calculation of the purchasing power of the wages of the farm labourer would show a very startling contrast to such a one.

forty or fifty years ago. Almost everything he has to buy is 50 per cent. cheaper than at that period, whereas the farmers' share of the produce of the farm being in kind, not in cash, when turned into the latter very necessary material is found to be somewhat of a *reductio ad absurdum*. If we take as an example a typical arable farm, 20 per cent. grass, and put the produce at a fairly good estimate as follows:—

	1855-65	1899
Wheat 1 qr. per acre.....	£2 15 0 ...	£1 6 0
Barley 1 qr. " "	1 15 0 ...	1 6 0
Mutton 40 lbs. " "	1 3 4 ...	1 1 8
Beef 25 lbs. " "	0 16 8 ...	0 12 6
Wool 9 lbs. " "	0 13 6 ...	0 5 9
Pork 14 lbs. " "	0 6 6 ...	0 5 6
	£7 10 0	£4 17 5

Here we show a gross depreciation per acre of £2 12s. 4d., or 35 per cent., and unless our figures are in error the farmer is bearing the brunt of the burden of depression.

But all this is entirely apart from the question which we at first raised, that of the actual supply of labour, cheap or dear. The fact is that useful farm hands cannot be had, although the wages offered are in money value higher, and in purchasing value immensely higher, than those formerly paid. How is it? Well, for one thing there is very little female labour in the fields nowadays. England has become such a mass of mansions and villa residences that the supply of domestic servants has run short, and no wonder, when we see all the smartest girls from the lower middle classes working at the desk, the telegraphic instrument, or the typewriter. The girls from the lower classes can now obtain situations in towns at good wages, and do not need to give a reference. Is it to be wondered at that there are none left in the country?

It is this dearth of female and child labour that accentuates and makes so serious the absence of skilled men. We do not mean that we would go back to the days when 4d. per day was the top wage for the crow tenter; but now the farmer who wishes to keep the rooks from his new sown grain may have to pay 14d. for a tenter, and may have much difficulty in obtaining one at that price. The schools are made so pleasant to the children, and they are taught so many interesting things, that they are loth to leave their schoolmaster for the open air and freedom of the fields, even when pressed to do so by the parents anxious for their children to be earning a livelihood.

No doubt there is much to be commended in this, and from one point of view Sir John Gorst and his colleagues of the Board of Education deserve well of their country; but how is the farmer to get his work done? How is the labourer to be retained in the village?

The energies of the Education Department are now directed towards the extension and improvement of secondary education, and the Grammar and other local middle-class schools are to be subsidised and brought into touch with the red tape of the Board of Education. No doubt this will have a wonderful effect in encouraging the production of lawyers, parsons, doctors, and such like, of whom we already have too large a supply; but it will not do anything to help the farmer in his search for skilled artisans of the farm, but will, on the contrary, still further encourage rural depopulation. People will no doubt say, You have had gratis the advantages of technical education as administered by the County Councils, and the village people have made such poor use of their opportunities that the money has been diverted to the towns, who better appreciate it. But the great drawback to the utility of the Technical Education Act lay in the prohibition of its application to elementary schools, and if in the future any effort is to be made to teach the people how to remain in, and make the best of, rural England the first lessons must be given at the village schools.

We must cease to cram the boys and girls of the village with knowledge only suitable for town life; but having taught the three R's, and trained the mind to habits of thought and reflection, we must take a lesson from our continental neighbours, and form an agricultural side to the school by sending the master or some other

properly qualified teacher into the fields with his class, to give his pupils practical instruction in the forces of Nature, and teach them how to use those forces for the benefit of themselves and others.

Impressions thus stamped on the youthful mind would be far more lasting and far-reaching than any that can be acquired later by attending intermittent courses of technical lectures. The pupils will have been taught to see with their own eyes and hear with their own ears, and not to depend for knowledge on the text-book and the daily paper.

[The remarks of our able coadjutor on appropriate education in rural districts are excellent. For years past much of the teaching imparted in village schools has been inappropriate; but apart from that the present scarcity of labour is in no small measure traceable to another cause, the effects of which were not foreseen in the old prosperity days, that were then mistakenly thought would endure for ever.]

WORK ON THE HOME FARM.

Harvest is now quite general; the dry weather and heat have ripened off the corn very rapidly, and some of the Barley too quickly. It rubs out a nice bright sample, but there will be a good deal of small. Binders are at work almost everywhere. A thirty mile journey through an early district took us past scores of fields recently reaped, and we only saw one which had not been done with a binder. Farmers have no choice, for extra men cannot be had. Trade is good in the towns, and men cannot be spared, whilst the immigrant Irish are much less numerous than formerly. Either matters at home must have improved or the competition of the string-binder has been too strong for them.

There is one thing in the harvest field which we do like to see well done, and that is the stooking of the sheaves. When stooks are well made they seldom get very wet, and at least it takes rain a long time to penetrate them. The stooks not only look better when placed in straight even lines, but much running to and fro is saved when the carting day comes. Do not be afraid to make the stooks too long. If rain comes the end sheaves get wetted the most and take longest to get dry, so the longer the stook and the fewer the number of corner sheaves the better.

Last week Turnips were in a parlous state. We saw many fields full of withering leaves lying down to die; fortunately the wind became cooler, and after a couple more days we had a beautiful night's rain, which revived things wonderfully. The land is now almost if not quite as dry as ever, and we are longing for more rain notwithstanding the harvest. As a fast a nice rain on the Barley stooks would do them good, and make the Barley malt better.

The August lamb fairs are here, and trade is very bad. No wonder, as the root prospect is so poor. Good useful lambs can be bought at £1 per head. No one dare speculate, for fog and old pasture are dear, and there is only a poor growth after the mown seeds. Many flockmasters are anxious as to the outcome of the next eight weeks.

The Lincoln annual ram fair, fixed a month earlier than usual, ended in a regular slump, half the animals having been passed, and those sold realised about half the price of last year. The invincible Mr. Dudding made an average of £75 each for five sheep, and was the only one with an increased average.

[A sum of £375 for five sheep does not indicate particularly bad times, as times go, for Mr. Dudding, though we very well remember one animal realising £300.]

COLLEGE OF AGRICULTURE, DOWNTON, SALISBURY.—The summer session of this College terminated on Thursday, August 10th, when the following awards were made:—The College diploma after two years' residence and passing in all subjects taught, to Percival Hurlbutt, Dee Cottage, Queen's Ferry, and T. S. Bliss, Queensbury, Cobham, Surrey. The College scholarship of £15, to H. Hineks, Terrace House, Richmond, Yorks. The Reginald Bles prize (£10), to John Benson, Harnage, Shrewsbury. The Wrightson prize (£10), to O. F. C. Yarborough, Campmount, Doncaster. Certificates of practical proficiency, to Hurlbutt and Bliss. The following prizes were also awarded:—To H. R. Board, Farley, Westerham, Kent, for agriculture, chemistry, building construction, veterinary science, botany, collection of grasses, and collection of farm weeds. To J. Benson, for agriculture, chemistry, practical chemistry, surveying and levelling, building construction, veterinary science, and botany. To A. D. Phillips, of Heybridge, Tean, Stoke-on-Trent, for agriculture, practical chemistry, veterinary science, and botany. To K. B. F. Foyster, All Saints' Rectory, Hastings, for chemistry and attention to farm. To T. S. Bliss, for practical chemistry, surveying and levelling, and knowledge of live stock. To W. D. Heskett, The Hollies, Penrith, for surveying and levelling and building construction. To H. Hineks, for collection of grasses. To P. Hurlbutt, for milking and waggon driving. To M. R. Heath, 29, Warrior Square, St. Leonards-on-Sea, for attention to farm. To F. B. Toms, Crosswood House, East Molesey, for attention to farm.

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Journal of Horticulture.

THURSDAY, AUGUST 24, 1899.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 8/9. Editorial communications must be addressed to S, Rose-Hill Rd., Wandsworth, S.W.

THE PASSING SUMMER.

NOW that gardens are full of the gaiety of the Dahlia and the hundred and one half-hardy flowers with which the gardener can fill his beds and borders with blazing colours, the lesser brightness of the hardy plants seems eclipsed. It is softer—dare one say—less meretricious, and less alluring? The best season is over, and we begin to see the soft, soothing colours of the Starworts appear—true harbingers of the quiet season. Yet there is brightness enough if we provide ourselves with the best flowers of the time.

The great annual Sunflowers are less often seen now that the ultra "aesthetic" cycle has run its course. Fine as they are, their sisters of perennial habit have their beauties as well, and have merits of their own. Now is their time of glory; now the day when they give their varied blooms to fill the gardens with gold. Very beautiful are such single-flowered Sunflowers as Helianthus decapetalus, H. multiflorus or Helianthus rigidus—better known still as Harpalium rigidum. The dry weather has checked the opening of H. Miss Mellish, but the rain now falling, and welcome to all save the harvester and the holiday maker, will soon bring it into flower. The new Sunflower, raised at Rothesay, and named Daniel Dewar, in honour of one of our best informed hardy plantmen, is here, but will not, one fears, bloom this year. Then there are the double forms, such as H. multiflorus plenus, H. Globe d'Or, and a few others, which always please. Fine, too, in its own way, though somewhat tall for my taste, is the double Rudbeckia laciniata Golden Glow. Though not a Sunflower, it is, to those unacquainted with flowers, sufficiently like one to be so called by them. In strong rich soil it assumes almost gigantic proportions in height, and its flowers are finer than in our light dry garden.

From this unique Rudbeckia we pass naturally to the others, which form part of the treasure of the time. Less novel than Golden Glow, yet perhaps even more liked, are the purple-flowered Rudbeckias known as R. laciniata and R. purpurea. With their high cone-like centres, and long,

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drooping rays, their distinct appearance and colour give them high value in the eyes of those who are of the cult of hardy flowers. Then there are the pretty *R. tomentosa* and the ever-valued *R. speciosa*, with others of greater or lesser worth.

Ere we wander far from the Rudbeckias or Coneflowers we must pause for a moment to look at some of the Heleniums, whose tasselled blooms help to make up the gold of the autumn days. Pretty and valuable as *H. autumnale*, *H. pumilum*, and *H. Bolanderi*, lighter than these and more elegant, are the *Coreopsis*, whose grace is, in some species at least, apparent to all. One species the writer has admired since he first saw it nigh upon a score of years ago. This is *C. verticillata*, whose elegant foliage combined with its pretty flowers makes it one of the prettiest of our autumn composites. Fine, too, is *C. monstrosus*, a variety of either *C. lanceolata* or *C. auriculata*. It is an unhappy use of language which applies to so pretty a flower the word "monstrous." It is grossly inapplicable, though the flowers are larger than those of the type from whence it comes. We have, also, the very beautiful *C. grandiflora* whose only fault in our eyes is that it is often too short-lived, and needs to be grown from seed to keep up one's stock.

Leaving the *Coreopsis* we are drawn to the *Anthemises* or *Camomiles*, whose best blooms are, perhaps, over, but which, if kept cut back, will give fresh flowers till the hand of winter touches it with its icy grasp. The thought of them now transports one in fancy to the famous garden at Edge where, in front of a hedge, the writer once saw a line of the *Anthemises* in gallant array, a row of starry, golden flowers, a sight which, once seen, elevated the flower to a higher place in one's estimation. More gold still! The precious metal, or its colour at least, is scattered thick as the leaves in *Vallambrosa* over the garden of the time. It is from the towering *Mulleins* mentioned in our last note. It is from the tall biennial *Evening Primrose*, a disappointing flower on a bright day, but a glorious one when the shades of night come on, or when awaking in the early morn, we see it standing in the day-dawn, a tower laden with soft yellow shallow cups of bloom.

Doubly pleasing because of the showers of gold around are the blue and purple flowers of the season. We need among the tasselled yellow flowers those graceful spikes of blue or white given by the *Veronicas*. There is much beauty in these *Speedwells*, and those who grow them will think them not unworthy of bearing the name of that gentle woman whose compassion—true or imaginary—has caused the name of *Veronica* to be held in high regard. The *Veronicas* are numerous, and one cannot refer to them in detail. Whether of herbaceous or of shrubby habit; whether tall and wand-like, or creeping close to the soil, almost all are beautiful in their way.

Long past is St. John's Day, to which the *Hypericum* by its popular name of St. John's Wort has been inseparably attached, yet we have the plant in bloom. Everyone admires the sub-shrubby species, such as *H. patulum*, *H. calycinum*, or the hybrid—surpassing nearly every other—*Moserianum*. A few flowers left on a plant of the tiny little *H. nummularium* caught the eye of a hardy plantsman who was in my garden the other day. The writer was absent, but came in and found him studying this little alpine with delight. A pretty little flower, growing only a few inches in height, it is hardy and beautiful enough to please those to whom the large, and to me, charming flowers of the larger species do not commend themselves.

Though one rejoices at the rain, which will save the labour of plying the watering can, the joy is chastened by a sight of one's big bush of *Olearia Haasti*, which on the rockery has been covered with crowded Daisy blooms. Like *O. stellulata*, its flowers delight in dry and sunny weather, in which they long retain their purity and beauty. After rain they quickly lose their colour, and the counterfeit of Chaucer's favourite flower soon grows unsightly.

Again must one lay down the pen; again lament an unfinished tale. Jackman's *Clematis* is full of bloom by the window and over the doorway. Behind the house *Clematis flammula* covers a little pergola, and mounts the gable to gratify its longing to curtain the chimney with its dangling sprays. Starry are

its flowers, beautiful because of their number, lightness, and softness. Perennial Peas—less varied in their hues than the Sweet Peas grown for their beauty and their sweet perfume—climb trellises and cover them with clustered heads of flowers. There is a shimmer of lilac on the earlier Michaelmas Daisies, and soon we may be on the alert for the appearance of the Meadow Saffrons and the autumn Crocuses. Already the autumn Snowflake—*Leucoium autumnale*—dangles its exquisite little flowers from their slender stalks, and the autumn Cyclamen has thrust its flowers up from the bare soil.

The garden of hardy flowers is a moving picture, but its mechanism is unseen and unfelt. There is no jerking, no feeling that the "machine" is at hand, as in the cinematograph. It is the gentle, unhurried movement of that power which, through countless ages, has pursued a great plan unerringly, and has in that colossal task ceased not to clothe the earth with beauty to refresh and give joy to feeble man.—S. ARNOTT.

PEAS IN 1899.

FOR weeks past outdoor gardening has been wearying work. True, we have had some violent thunderstorms, which have made the farmers look sorrowfully at the corn, beaten down to the ground; but we gardeners felt thankful for the storms, in spite of the harm they did. They gave us a respite for a few days at any rate, and any change from the constant slush, slush of the watering can was welcome. It was not for long, however; the torrents of rain have fallen at wide intervals like waterspouts, the dry parched earth drank in the moisture, and vegetation looked like a giant refreshed. But King Sol was only resting, and burst forth with all his pitilessness, the surface-sodden ground baked and cracked, and a few hours after the rain ceased there was no trace of moisture left.

I cannot say that the season up to now has been entirely unfavourable, or that we have reason to complain very much, considering how seasons go in this fickle climate; but it is sad about the Peas. It seems so long since we had a really good Pea year that one is apt to become disheartened, and set the crop down as being one of the garden's uncertainties. Never were prospects brighter, and it is only fair to the clerk of the weather to say that never have we had better crops of early Peas. The sad part of the story, however, has yet to come, and when we were picking basket after basket of delicious Green Peas from the rows of *Chelsea Gem*, *Daisy*, *Gradus*, and the rest of them, the succession crops close at hand looked a picture of vigorous health. The haulm was of that vivid green we so like to see, blossom showed in quantity, and the sticks looked hardly strong enough to support the crop.

Our hopes, plans, and forecasts have been turned topsy turvy, and we are obliged to write failure near the names of most of the successional Peas. At first it was only a whispered fear, and a hope that we should get rain soon. A yellow change in the haulm close to the ground mounted higher up the stem, flowers failed to set, or only resulted in small spotty half-filled pods, and then a plague of thrips came, just to put the finishing stroke on, and after that despair. True, some of the once healthy rows retained vigour enough to fill the pods, and a favourable reply went back to the kitchen in response to an inquiry as to whether there were any Peas. It was a bad move, though, for every other pod was tenanted by maggots, and the cook has not yet regained her evenness of temper.

Gardeners who have kitchens to supply are worried to know how to keep up a continuation of the delicious Green Peas from the early rows. Some struggle manfully against the opposing forces of Nature, others have thrown up the sponge, and many are asking a very natural question, "What is the best treatment for Peas during a dry season like this?" Everybody can advance his own theory, and this, I think, would form a very suitable subject for a little controversy by practical growers in these columns. In the first place, I do not think there is a great deal in variety, so far as withstanding drought is concerned. There is a large number of good Peas on the market at the present time, and I have grown a selection side by side for trial. Some of the latest sorts maintain a healthy appearance, but I do not see much to choose in the second early and main crop sorts, all of which fall prey to thrips and maggot.

Many growers pin their faith on watering and mulching to keep the Pea crop going, but others again question the wisdom of it, while personally I am short of water, and the idea of sparing any of that commodity for the Peas is out of the question. I think the most that can be done to save the Peas in dry seasons must be effected before we know whether we are going to have a dry season at all, or when the ground is being prepared for the reception of the seeds. Experience has proved to me that good farmyard manure and manual labour are

the two best antidotes against the effects of drought and burning sunshine. If food and moisture are in the ground the roots will go down in search of it, and having found it, the Peas will last longer than by any artificial aid from the water-pot. A wide trench, two spits deep, a coat of manure spread on the bottom and worked in, another between the top and second spit, and you have a reservoir for the plants to draw on when the earth is parched and the sun pitiless.

Something can also be done in the way of selection of sites for Peas, as there is no need to say how much better the crop is lasting where the medium is moist and retentive, and where partial shade is afforded, than where the rows are exposed to every glare of sunlight and the soil is dry and shallow. And lastly, if the water is given, do not forget the mulching to conserve the moisture in the ground. I am of the opinion, however, that it is a mistake to use the watering can in the kitchen garden in preference to the spade. Water is an untold blessing at times, and fortunate are the gardeners who have an unlimited supply; but it should never be forgotten that a storehouse of food and moisture can be provided in the ground itself by digging deeply and manuring freely.—G.

RAISING AND GROWING ASPARAGUS.

HAVING of late received more inquiries than usual on raising and growing Asparagus, and two yet unanswered, a portion of Mr. George Norman's practical paper on the subject, in the July issue of the "Journal of the Royal Horticultural Society" (an enlarged and excellent issue), will not be unacceptable. Mr. Norman also refers to forcing, but the citation is confined to outdoor culture, as follows:—

The chief districts in England famous for growing Asparagus are Cambridgeshire, Worcestershire (especially the Evesham district), Essex (about Colchester) and in the Thames Valley near London. The best home-grown outdoors Asparagus that is sent to Covent Garden Market is produced in these districts.

In Scotland, the south-western parts, comprising the counties of Ayr, Wigton, and Kirkcudbright, are specially favourable. The soil in many places is a rich sandy loam, and the maritime situation, together with the influence of the moisture-laden atmosphere from the Gulf Stream, have a very beneficial effect. Its cultivation is, however, almost entirely confined to private gardens.

On the cultivation of Asparagus in Scotland, it may be here interesting to quote from a paper on the supply of vegetables to the Edinburgh and Glasgow markets, read before the Scottish Horticultural Association by Mr. J. Scarlet of Inveresk. He says, "There is practically no Asparagus grown in Scotland for market. English, French, and Spanish have ousted home-grown to such an extent that the one or two growers who used to bring anything like a quantity have discontinued its cultivation. This is due probably more to the lateness of the home crop, compared with that of other countries, than to any unsuitableness of soil or climate."

SOIL.

Rich sandy soil of good depth is naturally the best adapted for Asparagus, and in such soil its cultivation is an easy matter. But in these days, whatever the nature of the soil of a garden may be, the cultivation of Asparagus is looked upon as an absolute necessity, and the fact is often lost sight of that if the soil be of a clayey nature and shallow, the produce under such conditions cannot possibly bear comparison with that from a soil naturally suitable for the growth of this plant. With labour and materials at command, heavy, clayey soil may be in time brought into a light, porous condition by the addition of sand of the best kind procurable—sea, river, or grit, sandy deposits from drains, road scrapings, burned earth, and lime, brick, and rubble from old buildings, all these are excellent for rendering soil permanently porous.

Whatever the soil may be, leaf mould, peat, light fibrous loam, old hotbed material, seaweed, and farmyard manure (especially that from cows), I have found to be the best fertilisers. The last named is practically indispensable, for the soil can scarcely be too highly manured, as good quality depends on quickness of growth, which is assisted by richness of soil.

DEEP CULTURE.

Asparagus is a deep-rooting plant. Frequently after doing away with old beds I have found the soil permeated with roots to the depth of 30 inches; consequently in preparing the soil for planting, it should be made 30 inches deep by trenching, adding, and mixing in the materials already named, from the bottom to the surface as the trenching proceeds, in quantities as required according to the nature of the soil. The advantages of deep trenching and increased depth of rooting medium are that the roots descend so that they do not suffer so much from want of moisture in dry seasons, and it also assists the free percolation of water in wet seasons. For although Asparagus is a seaside plant it will not thrive in stagnant ground, and if the subsoil

is of a clayey, impervious nature, insufficiently drained, this defect must be remedied by agricultural drains, put in before doing the trenching, or a layer of a few inches of old brick, rubble, or cinders will form an effective drainage if placed at the bottom at the time of trenching.

In considering the situation of the ground, the best is that with a slight fall to the south, well sheltered on the side whence come the prevailing winds. For climate, the southern parts of the country are the most favoured.

VARIETIES.

Asparagus, like other things, to be in the fashion must be large; size, which does not sacrifice quality, is due to soil, cultivation, and situation, and not to any special varieties, as there is believed to be but one. "Red Topped" or "Dutch," and "Green Topped," and the names of places famous for its cultivation, have been given to supposed varieties of it; but variations in size and in colour are, in my opinion, due entirely to the circumstances under which it is grown.

RAISING AND MANIPULATING.

The month of March, when the surface of the ground is dry is the best time to sow the seed, thinly, in drills an inch deep, the drills a foot apart, at the rate of $\frac{1}{2}$ oz. to 15 yards run of drill.

The trenching of the ground should be completed in autumn, six months before the time for planting, so that the ground has time to settle, and in March, when it is in a suitable condition to work on, the surface should be forked over and made even, after which it will become friable and settled by planting time.

Asparagus is a plant that is amenable to transplanting, providing it is done at the right time, and reasonable precautions taken not to let the roots become dry. When the shoots are grown to a length of 3 or 4 inches is the best time to transplant, but the young shoots had better be longer than this, then transplant before the vital powers have become active.

PERMANENT PLANTATION.

Some growers continue the old raised beds, and some have introduced the level plot system, adopting it from the French; but, whatever the system, the rows should run in the direction of north and south.

I have tried various modes of planting. The one I have found the best and most expeditious is to cut out a trench with a spade by the side of a line, 6 inches deep, and slanting, in the same way as for laying Box. The roots should then be spread out quickly, and carefully covered with soil, leaving the crown of each plant about 2 inches beneath the surface. Care should be taken to separate the plants so as not to have two crowns where there should be but one. After planting, a good watering should be given to settle the soil, and further waterings must be given as often as required, according to the weather, until the plants are well established.

DISTANCES.

The distance apart of the plants depends on the system followed. Both have their peculiar advantages. The bed system is the one generally employed, and it is the best where the soil is shallow and the subsoil is of a cold, clayey nature; but where the soil is light and rests on a dry subsoil the plot system is the best, particularly in dry seasons.

A width of 5 feet for a bed, and 2 $\frac{1}{2}$ feet alley between beds, is very suitable for the growth of the plants and for carrying out the necessary work in the different seasons. Three rows are planted in each bed, one in the centre and one on either side, leaving 18 inches between them. The distance between the plants in the rows should be 2 $\frac{1}{2}$ feet.

With the plot system the distances between the rows should be 4 feet, and 18 inches between the plants in the rows.

These distances by some may be considered unnecessarily wide, but they are not so, for if good results are to be obtained the plants must have room for the tops to fully develop without crowding. The French give even more space than this—they allow 4 feet from row to row, and 3 feet in the rows.

One-year-old plants are much the best; if older they do not transplant so well. Some recommend the sowing of seeds in the permanent beds or plot; by so doing, the ground, according to my experience, is occupied by it one year unnecessarily, as one-year-old plants do equally well.

DRESSING AND MANURING.

During the season of planting, besides watering, attention to weeding is all that is required. In the autumn or early winter, after the tops are dead and cleared off, a dressing of decayed manure should be spread on the beds, a stake driven in the corner of each bed, the sides marked off, and about 3 inches of soil from the alleys placed over the manure; or, in the case of the plot, the manure is dug in between the rows. About the same time in each year afterwards a dressing of manure or seaweed is required to be dug in, and the surface left rough. In the spring, before the shoots begin to push, the surface

should be made smooth with a rake, and this is the best time to apply a dressing of salt, not only for its saline qualities as a manure, but it also kills insects and weeds. Of artificial manures I have found nitrate of soda to produce a marked effect when applied early in the spring, to old beds past their best. Where the soil is not of so calcareous a nature as desired, a dressing of fresh lime applied early in the spring will supply the defect.

CUTTING.

On the cutting of the crop there is but one opinion of the time to begin on a new plantation, and that is not until the third season of growth; and my advice is to cut them but very sparingly, only taking about two early cuttings of the strongest shoots. After the third year they may be considered in bearing order, and, with liberal and careful management, will continue so for a dozen years or more. Of how to cut, different rules have been advocated by different growers; some cut all that rises above ground until the middle or end of June, others only take the strongest shoots and leave the others to grow up, and no doubt this latter is the best rule, only then more ground must be devoted to Asparagus, a matter which all growers cannot afford. Personally, I adopt a medium rule, by cutting all that rises till the middle of the season—i.e., about the middle of May, and after that only the strongest shoots till June 15th, and if, by any chance, emergency demands a cutting later, it is very reluctantly supplied.

SUMMER GROWTH.

After the cutting season, growth must have time to develop and ripen before the autumn. On the vigour of the growth to a large extent depends not only the size of the shoots the following year, but even the life of the plants. Many beds are ruined through over-cutting. I have even heard a gardener say that to have good Asparagus, beds should be cut from only in alternate seasons.

As so much depends on the maturing of strong growths, care must be taken to protect them against wind. A few Pea stakes stuck into the ground amongst them, for the tops to lean against, form a good wind guard.

GREEN AND BLANCHED PRODUCE.

The taste in England hitherto has been for green Asparagus, and to have it in this condition it is allowed to grow 3 or 4 inches above the surface of the ground, and then cut 2 or 3 inches below it. The French prefer it blanched, and their method seems to be gaining favour in England. To have it in the French style a greater depth of soil is required over the roots, and the shoots must be cut when they are seen to be heaving up the surface of the soil. The plot system is the best for this; the soil may be drawn over the rows on both sides, in the way in which Potatoes are earthed up, and the time to do this is just before the shoots begin to push. At Hatfield we usually begin to cut Asparagus outdoors about April 15th, a few days earlier or later according to the season.

NOTES ON THE VEGETABLE CROPS.

This has not been a favourable season for the growth of vegetables in this neighbourhood, and many of the crops are unsatisfactory. This state of affairs may be attributed more to the unfavourable season than to injury caused by insect pests. The weather has been very changeable, and we have had such extremes of temperatures. Nearly the whole of May was wet and cold; the rainfall was by no means excessive, but there were so many wet days in succession, with an absence of sunshine and low temperatures, that vegetation was almost at a standstill; in fact some crops appeared to be dwindling away altogether. When the weather did change it became very hot, and for four weeks we had no rain, indeed there has been very little rain since May.

Peas have been the greatest sufferers, and with the exception of a few rows each of William I. and Exonian growing on a warm border and sheltered from the cold winds, this crop has been the worst I have had for several years. Most varieties germinated well, but when about 6 inches high stopped growing, and for some time presented a very stunted appearance. They appeared to be affected by a kind of blight, the young growths being quite browned and the leaves curled. Several varieties only attained to about half their usual height, and the produce is inferior in quality as well as small in size.

Spring sown Onions have done remarkably well considering the season, although like Peas they presented a sorry appearance in their young state. During the cold time in May they turned quite yellow, and many of the plants succumbed. On the advent of better weather, however, and the application of a few dressings of a suitable fertiliser they have improved, and there will be a fair crop, but the bulbs generally are undersized. The maggot has not been very troublesome. This year tap-rooted vegetables, on the whole, have made the best progress, and so far are clean and healthy, especially Paraisips. Carrots are an uncertain crop in this soil, and in a very dry season they all go off. This year, strange to say, they are standing the drought well, the roots being clean and bright; but unless we soon have a good rain, I am afraid they will not survive.

Celery is doing well, and though greatly in need of rain, is making good growth. During its early stage it received good waterings, and a thick mulching of lawn mowings, which have greatly assisted the plants. Last year the Celery fly did much damage, and the plants were looked over several times, and all infested leaves pinched off and burnt. This season, I am glad to say, the plants are so far free from this pest. The Turnip fly has done a considerable amount of injury, and we have had great difficulty in getting not only a crop of Turnips, but nearly all the Brassica tribe as well. The intensely hot and dry weather coming just after our greens were planted has caused the death of hundreds, they being completely devoured by the fly. We have had to plant Cauliflowers, Broccoli, Savoye, and, in fact, nearly all kinds of greens a second time.

Gooseberry and Currant bushes, wall trees, and most things in the garden were infested with the flies, although no harm was done to these. This is the first time that the fly has destroyed my crops of greens, and I was under the impression that it was rather an uncommon occurrence.

A short time since, however, I noticed in the Journal (page 4) a case where the writer was complaining of the injury done in his garden, and stated that he nearly always had a difficulty in getting good crops. I have tried several things against the pest, such as soot, lime, quassia extract, and petroleum emulsion. The latter has proved the most successful, and though applied during bright sunshine, it has not injured the plants; in cases of very bad attack, it will be necessary to spray the crops twice a day.

In consequence of the damage by fly and the continued dry weather, our crops of greens, with the exception of Brussels Sprouts, are most unsatisfactory. Many plants have died, while others are making very irregular growth. Amongst the Cauliflowers there are many blind plants, although they were carefully examined prior to planting. Broad Beans, as well as Kidney and Scarlet Runners, are doing well. Early Potatoes have been good, especially Sharpe's Victor, and are quite free from disease. Second early and late varieties were good until about the last fortnight, but now show signs of distress from the drought, and I am afraid the tubers will be small.

A short time since I was through a number of cottage gardens on two different estates. The crops on the whole were looking very well, and appeared to be free from insect pests, but the effects of the unfavourable season were plainly apparent. Peas made a poor show, and in only a very few cases was a good row to be found. I should be glad to hear if Peas have been similarly affected in other parts of the country.—J. S. UPEX, York.

QUALITY IN FRUIT.

THE best judges of fruit usually admit that colour and flavour are the test of quality, and leave size out of the question, or rather, give it a very secondary place. This is quite right; size in the abstract is a fault in many fruits, but then size often means improved quality. Take that excellent Peach Alexandra Noblesse. There are often very large fruits of it; they usually lack colour, and possibly anyone unacquainted with varieties would be apt to choose a brighter-looking, perhaps a smaller Peach. They would do wrong. A large Peach is better than two half the size, for there is only one stone and only one rind, the outer surface of one large fruit being less than that of two small ones. This means an additional quantity of edible flesh, a great advantage to the fruit.

Again, take a large bunch of any good quality Grape, such as Madresfield Court. The individual berries will be larger if the bunch has been properly thinned, and the flavour is not harmed in the least. The large bunch shows superior culture and is the better. Gros Maroc may be better in colour, the bunches may be compact and well made, but no one could say that Madresfields of good quality are not better than the best Gros Maroc ever grown.

Size may often, as I have said, be a disadvantage. For a small number of guests it is wrong to grow extra large Melons. This luscious fruit may be of the very best quality when opened, but the rich flavour soon goes after cutting. It is best, then, to grow Melons that will be nearly all eaten at a single meal, so that the flesh is enjoyed at its best. Very large Strawberries are seldom so good in flavour as smaller ones, although there are exceptions, and a true opinion can only be formed by an intimate knowledge of varieties and their peculiarities.

As to the conditions necessary to bring flavour into fruits, anything that maintains the tree or plant in perfect health will usually be the proper method. Unnatural drying off or sudden alterations in the temperature and atmospheric conditions caused by throwing fruit houses widely open, are wrong in principle and bad in effect. There may be occasions on which it is necessary to effect changes that are not altogether in favour of the plant, but they are few, and as a rule what is good for the plant or tree is good also for the fruit.—H. RICHARDS.

DEATH OF MR. T. FRANCIS RIVERS.

It must needs be that our horticultural world, like the palace and the cottage, shall from moon to moon pay its due tribute to Father Time. Already that last and most kindly physician has in this year removed from our midst at least three whose names carry with them a special measure of respect, and now the great pruner of mankind has again entered our garden to take his toll. Whose is this name? Well, it is the honoured name of Rivers. Upon the 17th day of August there passed away at Sawbridgeworth Thomas Francis Rivers at the age of sixty-eight years.

Twenty-two years ago this paper had to record the decease of the late Mr. Francis Rivers' father, known in horticulture as Thomas Rivers. The lives and the works of these two Rivers cover nearly the whole of the Victorian era. This age not only interests ourselves from the fact that we have helped to make it, but inasmuch as its exploits in almost every department of knowledge have never been excelled in history, we feel a personal pride in having belonged to it. Moreover, as horticulturists it is certain posterity will envy us the good fortune of being contemporaries and the associates of those who have during the last fifty years laboured in raising English gardening to a height inconceivable to our forefathers, and unsurpassed among the nations. Years hence, when the lusty progeny of Britannia shall have appropriated and developed our present knowledge of fruits and fruit culture to a point beyond our imagining, they will still fail to realise how much they are indebted to the observations made and the successes attained in the quiet village of Sawbridgeworth during the last seventy years of this century.

Seventy years, however, does not represent the duration of the influence of the Rivers family in that neighbourhood. It is a hundred and eighty years since the original Sawbridgeworth Rivers migrated thither from Berkshire. But those were not the days of expansion, population for nearly a century but languidly increased, and railways had not yet opened up distant and easy channels of trade. Hence the business of the earlier Rivers took no great development, their efforts being confined merely to the supplying of the modest demands which the primitive notions of the neighbourhood made upon their establishments.

With the French Revolution, however, came the European awakening, penetrating even to such placid Aroonian English villages as Sawbridgeworth, and just as the Revolutionary wars were blending into the despotism of Napoleon Bonaparte—in 1798—Thomas Rivers, the father of the subject of our notice, was born. Brought up amid a generation quickening with the new impulses communicated to it by the new science and the new politics, the prophet of modern fruit culture was gradually moulded to his work. Then as the opportunity begotten of growing wealth and growing population came (and, curiously, almost exactly with the introduction of railways in 1827), Thomas Rivers entered upon his mission as a public teacher. It would be deeply interesting to recount here the writings and the experiments of the elder Rivers, as described in this Journal twenty-two years ago by one who was his boon companion in their joint specialty. To the enthusiast the recital is absolutely fascinating, but our business is with the son.

Francis Rivers was born upon the eve of the great Reform Bill in 1831, and spent his boyhood amid the din of free trade and protection, when Cobden was labouring to free English commerce from the trammels thrown around it by an injurious system. Country life

was still primitive, and, as judged by our present luxurious standards, rough and dull. A prize fight then was the equivalent of what an international cricket match is now, and the scene of some Homeric battle was not infrequently the neighbourhood of Sawbridgeworth. Like the large and liberal minded man he was, Mr. Thomas Rivers sent his son to finish his education in France, at Dunkirk and Boulogne. It was in this way that Mr. Francis Rivers acquired that command of literary and colloquial French which so greatly facilitated his intercourse with the horticulturists and societies of Belgium and France, whether presiding at meetings or conferring privately with them as individuals. It likewise extended the field of his knowledge, for with greater literary instincts and tastes than his father, he inherited the same love of excursive reading. From his father also he acquired, merely by contact, an insight into the new methods of evolution growing up around, and with increasing age and constant observation, learned at length to draw useful deductions for himself regarding the operations of Nature.

Working thus in the laboratory prepared by his predecessor it was only natural that Mr. Rivers should become unconsciously impregnated with the *genius loci*, and having graduated by virtue of long experience in so valuable a school, should ultimately assume the cares of office as his father's strength declined. Long previously to this, however, his influence had made itself felt, so that when Mr. Thomas Rivers came to depart in 1877, no perceptible alteration in the traditions of the house resulted from the change. It is true the tendencies were less eclectic. The elder Rivers, beginning with the Rose, worshipped at its shrine for years; and then, with characteristic energy, plunged with equal ardour, and equal success, into the cultus of Apples, Pears, Peaches, and other stone fruits. Mr. Francis Rivers confined his efforts rather to the elaboration of new varieties of the Nectarine, the Plum, and the Green Gage. Of his achievements in these departments it seems almost superfluous to speak, seeing that the results are still so fresh in the memories of those who have attended the great exhibitions of the last fifteen years.

It is almost impossible to say in what direction Mr. Rivers' best efforts have been directed. That he has for all practical purposes revolutionised the Nectarine, added to the length of the season in which ripe Peaches may be had,

raised and introduced Pears, Apples, Plums, and Cherries, and was the raiser of the now celebrated Nonesuch dwarfing stock for Apples is well known. In these respects alone his work was monumental. He also did an immense amount of good and encouraged the spread of fruit culture by the aid of practical essays on all phases of the subject, of which he was a master, these being read at the leading gardeners' meetings in the country, and further distributed by the aid of the gardening press.

Mr. Rivers' knowledge of fruits was profound, and the numbers of new varieties that have emanated from Sawbridgeworth since his active leadership of the firm were extraordinary. He commenced seed sowing when a boy, and during his career tested the fruits of hundreds of his seedlings, retaining only those which displayed distinct characteristics. Of Nectarines alone he placed two dozen varieties in commerce. Lord Napier was one of the first to become a general favourite, while the brilliant Early Rivers made an even quicker advance, and the precocious Cardinal is rapidly finding its way into gardens at home and abroad. There are also undoubtedly fine varieties in the "Poets' series"—Chaucer, Dryden, Milton, Newton and Spenser. Only a week or two since we



FIG. 34.—MR. T. FRANCIS RIVERS.

observed a silver medal awarded to a dish of Dryden from the garden of Mr. A. H. Smer, as the most meritorious exhibit in a show of considerable dimensions. Pineapple is one of the best known as a valuable successor to Pitmaston Orange, and Humboldt is larger than Pineapple, while most cultivators know that Victoria and Stanwick Elruge are among the best and latest of Nectarines.

Mr. Rivers raised an equal number of Peaches, and, as has been said, materially extended the season of this delicious fruit by the distinctly early varieties—Early Louise, Early Rivers, Early Beatrice, and Early Alfred, all producing, if small, yet excellent Peaches. He also introduced the first American varieties, Alexander, Early Amsden, and Waterloo, but thought the first named was sufficient of the similar trio. Of the later Sawbridgeworth seedlings such established varieties as Goshawk, Sea Eagle, and Gladstone, among others, will carry their raiser's name into futurity.

Plums also came within the scope of his genius, and as a result we have such varieties as Grand Duke, Monarch, The Czar, Early Transparent, Golden Transparent, and Late Transparent, Early Rivers, Sultan, and Primate. Already many of the Sawbridgeworth seedlings have become standard varieties, and shown beyond question that they have come to stay.

Among the best known of Mr. Rivers' Pears are Fertility—not a high-class fruit, but a recognised profitable market variety—Beacon, Dr. Hogg, Conference, Magnate, and Princess, most or all of which have been honoured by the Fruit Committee of the Royal Horticultural Society. Less numerous are the Apples which were raised in the famous Herts nursery, yet there are some half-dozen of them, three at least having been honoured by the R.H.S., namely, Thomas Rivers (or Rivers' Codlin), St. Martin's, and Prince Edward; while one Cherry is worthy of the name it bears—the valuable Early Rivers, though its author introduced other fine varieties from the Continent.

It can be said of Mr. Francis Rivers that he had faith in his own fruits. He often had them in bearing for years, and made extensive plantations of some of them before the world knew of their existence, reaping, as he deserved, advantage by his judgment. Mr. Rivers though he preserved a fine collection of Grapes, including many little grown varieties, we do not remember that he was the raiser of any; but it was through his agency that the popular Gros Colman, and, later, Gros Maroc, were placed in commerce, and became, especially the first named, extensively cultivated.

The deceased gentleman is the second Victoria Medallist of Honour to pass away. He was Chairman of the British Fruit Growers' Association, and was one of the prime movers in the celebrated Exhibition of British Grown Fruit held in the Guildhall in 1890 under the auspices of the Worshipful Company of Fruiterers, and was placed on the Livery of that Company in recognition of his services.

At intervals Mr. Rivers put forth new and revised editions of "The Miniature Fruit Garden" and "The Orchard House," incorporating therein the latest information gleaned in the course of his experiments at Sawbridgeworth. When in 1888 the British Fruit Growers' Association came into being, Mr. Rivers was elected one of the vice-presidents. The speeches he has made and the papers he has read at its meetings, and also at those of the Fruit Conferences held at the Crystal Palace and in other parts of the British Isles, have become the subject of much Press commentary, not even excepting the "Times." It is to be regretted that his accustomed place at these gatherings will know him no more. With him the accumulations of a long, varied, and unique experience vanish from the world, and English horticulture loses one of its worthiest representatives. Last Monday afternoon, in the parish churchyard of the picturesque village of Sawbridgeworth, Francis Rivers was laid to rest beside his forefathers. In the warm broken sunlight of a perfect summer day, amid troops of sorrowing friends and mourning dependants, were consigned to earth the remains of a man of gentle heart and polished mind, who was known to many, understood by some, and respected by all. Worthy son and worthy sire! What more appropriate epitaph can we find for them than this? "By their fruits ye shall know them."

SPARTIUM JUNCEUM.—The Spanish Broom is a fine plant for the front of shrubberies or any place where a touch of bright colour is needed. A group of it at a little distance in full flower has a very fine appearance, the full clear yellow of the blossoms being very unusual, excepting in the Brooms. The plant is very free growing, making long Willow-like shoots that flower most abundantly. It thrives well on almost any description of soil, and is easily propagated by cuttings of half-ripened wood inserted in autumn or by seeds.—H.



RECENT WEATHER IN LONDON.—Though the amount of rain that has fallen in London has been very small, the cooler atmosphere makes things much more bearable. The sun at midday is still powerful, but nights and mornings are decidedly cool. At the time of going to press on Wednesday it was bright and warm.

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, August 29th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. At three o'clock a paper on "The Soil Considered as Plant Food, and Its Exhaustion," by Monsieur Georges Truffaut, will be read.

— **AILANTHUS GLANDULOSA.**—In France it has been found that the Ailanthus, which multiplies itself so rapidly by suckers from the roots, is well adapted to rocky and sterile hill and mountain sides where other vegetation will not exist. In such locations it sends out its roots between the rocks, and from these spring new, young plants, clothing such hillsides with forest growth. The wood of the Ailanthus is soft and light, and of little value hitherto known, either for fuel or manufacturing purposes, but it has been found that it serves admirably for broom handles, and is proving so useful for this purpose that the cultivation of the tree is being extended even beyond the limits of poor lands.

— **KEW APPOINTMENTS.**—Mr. Isaac Henry Burkill, M.A., late temporary assistant in the Herbarium of the Royal Gardens, has been appointed principal assistant in the director's office. Mr. Burkill was a scholar of Gonville and Caius College, Cambridge, and assistant Curator of the University Herbarium. He received the Walsingham medal in 1894. Mr. Henry Harold Welch Pearson has been appointed by the Secretary of State for India in Council, assistant (for India) in the Herbarium of the Royal Gardens, in succession to Dr. Stapf, promoted to be a principal assistant. Mr. Pearson was assistant curator of the University Herbarium, Cambridge, Frank Smart student, Gonville and Caius College, and, as Wort's travelling student, visited Ceylon in 1897. Mr. Alec Arthur, a member of the gardening staff of the Royal Gardens, has been appointed by the Municipal Council of Shanghai, Superintendent of Parks and Recreation Grounds in that town. Mr. John Gosswiler, recently a member of the gardening staff of the Royal Gardens, has been engaged by the Portuguese Government for the curatorship of a botanic station in Loanda, Angola.—("Kew Bulletin.")

— **SCHEDULE WORDING.**—In making schedules for local, and especially for cottagers' shows, so many persons employ words not only very superfluous, but are often misleading, because voluminous. It is so much better to use the simplest terms, and as few as possible. Thus I find the word "best" commonly used to every class. That is a term that need never be employed, because it is so well understood that the object of judging exhibits is to find not the best one, but the best several. "Bunch," again, is often needlessly used, as is also the term "dish." Thus, the "best bunch of Carrots, six to form a bunch," appears in a country schedule, when all the words needed are, "six Carrots," specifying whether long or short, if there be different Carrot classes. "Best dish of Broad Beans, twelve pods in number," is peculiarly superfluous language, when twelve pods of Broad Beans would be ample. Potatoes continue to be divided into white and red, kidney and round. It is better to call them white and coloured, as some judges would refuse to admit a purple Potato to be a red one. The distinction round and kidney should be abolished, as the dividing line does not exist. But in one case I met with classes for round, for kidney shaped, and for intermediate shaped varieties. I think it is so much better to have classes for white, and for coloured, as it is not possible with these to show the same variety in both classes, and then have single and double dish classes in each section. The same superfluous language is frequently found in classes for fruits and flowers, tender vegetables. "Best dish of Apples (cooking), five to form a dish," is very cumbersome for a class which should be simply, five Apples (cooking), or five Apples (dessert). It is not merely that such verbosity unduly hampers a schedule, but it also renders printing more costly. In spite of all that has been written from time to time on the subject a real reform of schedule construction and phrasing seems much to be needed still.—WANDERER.

— **RATE OF GROWTH OF FIRS.**—The rate of growth in the case of trees varies not a little, and is very largely influenced both by the climate and the district in which they are grown, and also by the nature and aspect of the land. It has been found that on an average Larch grows at the rate of from 15 to 18 feet in about a dozen years; Spruce Fir about half that height. As against this, however, we have known Larch trees, grown in favourable situations, to have reached a height of from 25 to 30 feet at the age of fifteen years. The land in this case, however, was rich and fairly sheltered.—("Irish Farmers' Gazette.")

— **PEACH GOSHAWK.**—Your correspondent, "Sexagenarian," asks on page 104, "Who has tried Goshawk (Peach) on the open wall?" About twenty years ago I had two trees from Messrs. Rivers & Son, which were planted against a wall, facing south, and they bore well until the wall was removed, which did away with those and other Peach trees. I then had two trees of this variety from Messrs. Smith & Son, Worcester, and they are bearing fairly well, and my employers say they are of good flavour. Like the other Peach trees they suffer from the winds, which blister the leaves; but if I were confined to only one variety that one would certainly be Goshawk. Why was the question asked—is it supposed to be tender?—SOMERSET.

— **CARNATIONS AT HERRINGER.**—At the village show at Herringer, Suffolk, Mr. F. Carter, an amateur grower, set up some really magnificent flowers of Carnations. His Mr. Nigel, a yellow ground with very deep flaking, was a magnificent flower, and the somewhat miffy Mrs. Robert Sydenham he also staged, in beautiful condition. The pure white Mrs. Eris Hambro and the pretty yellow Gift were noted as exceptionally fine; in fact, any of the flowers shown would have stood high in the very best competition. A look through Mr. Carter's pretty garden showed that all other flowers he takes in hand are equally well grown, and I especially noticed some of the newer single Gaillardias that were most beautifully grown and very fine varieties.—H. R. R.

— **RICINUS AND SCABIOUS.**—In a large circular bed we have planted Castor-oil Plants at a couple of yards apart all over the bed, and between these white Scabious plants were somewhat thickly planted. The bronzy leaves of the Ricinus and the white flowers of the Scabious do not sound like anything elaborate, but it is very striking and pretty, for the Ricinus is a noble-looking plant when grown in the full sun and in a good rich soil. The Scabious flowers are only peeping out here and there, of course, for the large leaves of the Castor-oil Plant keep them from unduly pressing their claims to notice. I can recommend this as a simple but effective way of treating a large bed.—R.

— **PRIZES AND WINE.**—The other day at a great metropolitan show I noted the constant recurrence of the same name, one or two men getting all the best prizes. One winner, indeed, told me that he had thirty-four prizes. That is not quite the sort of thing one wishes to see at flower shows, as clean sweeps of this nature are so disheartening to the mass of competitors. A very different result was seen the other day at Cranleigh, where in *bonâ fide* cottagers' classes I found in looking over the names of the winners of the first prizes, that of thirty-three prizes there were seventeen winners, and of thirty-six second prizes, a few firsts not being awarded, there were twenty-three winners. No one competitor seems to have taken of firsts and seconds more than six prizes. Then I found, putting the firsts and seconds together—a total of sixty-nine—that these were shared amongst no less than thirty-two exhibitors. Nothing could well be more satisfactory, as probably every exhibitor in the classes got something.—OBSERVER.

— **EXHIBITING FLOWERS—GYPSOPHILA.**—With reference to the note from "Florist," which appears in the Journal for August 17th, page 144, on the use of *Gypsophila paniculata* with herbaceous flowers, I should like to ask if an exhibitor ought to be disqualified for placing it loosely on the table between the vases holding the twelve bunches. I have frequently used it in that way, but have been told that I am using a thirteenth variety to decorate the twelve, and am liable to be objected to. I agree with "Florist" in the special case he mentions on disqualifying the exhibitor for adding *Gypsophila* to the bunches.—R. W. [The only safe way to avoid disqualification is to exhibit in exact accordance with the terms of the schedule, neither adding nor withholding anything. Twelve bunches of cut flowers should need no such "decoration" as suggested. The Judges might ignore the addition or disqualify the exhibit, and in any case we cannot imagine their thinking more highly of the flowers in competition because of the dressing.]

— **GOLD MEDAL DAHLIAS AT LEICESTER.**—I notice in your report of the Leicester Show a statement that I was awarded a bronze medal for Dahlias. I should like to say that I was the only exhibitor at the Show who took a gold medal for Dahlias. I should be pleased if you could make the necessary correction in your next issue.—S. MORTIMER. [We readily publish the note of our correspondent, and congratulate him on his success.]

— **ST. JAMES, WEST MALVERN.**—I have read with great regret the announcement that those beautiful gardens known as St. James', West Malvern are to be offered for sale. That is consequent upon the recent death of the late owner, Lady Howard de Walden, who, aided by her able gardener, Mr. C. Fielder, formed at St. James's, which is a huge slope on the western side of the great Malvern hills, one of the most novel, interesting, and beautiful gardens in the kingdom. The late owner was an enthusiastic gardener, and, being very wealthy, obtained everything suitable for her purpose in planting these remarkable gardens, and the collection of various hardy stock is probably unrivalled in the country. The gardens consist of one great series of slopes or banks, with grass or gravel walks on the level; within the lower grounds charming ponds containing beautiful aquatics. Bamboos have been abundantly planted. It will be indeed a misfortune if these lovely gardens be broken up or handed over to the tender mercies of the builder.—A. D.

— **MOSELEYA.**—In a recent number of Hooker's "Icones Plantarum," a very rare plant, which was originally described as *Hornemannia pinnata*, Benth., and subsequently reduced by the same botanist to the genus *Sibthorpia*, is figured (t. 2592) under the name of *Moseleya pinnata*, Hemsl. Excellent specimens received from China seemed to warrant restoring this interesting plant to generic rank, and as the name *Hornemannia* was already in use, the genus was dedicated to the memory of the late Professor H. N. Moseley. Shortly after this publication, Mr. N. E. Brown recognised in it the *Ellisiophyllum reptans*, Maxim., founded on Japanese specimens in 1871, and described by the author as "*inter Polemoniaceas et Hydrophyllaceas*." So few specimens existed in herbaria that nobody appears to have identified Maximowicz's Japanese plant with that described by Benth. from India, though the late Dr. Baillon (Bull. Soc. Linn. Par., 1891, p. 817) referred it to the *Scrophulariaceae*, and the vicinity of *Littorella*. As there is no doubt of the identity, *Ellisiophyllum* is the name to retain, and it is to be hoped that the name of Moseley may yet be connected with a plant previously undescribed.—("Kew Bulletin.")

— **FLOWER SHOW MARQUEES BLOWN DOWN.**—We gather from the "Aberdeen Express" that after a few weeks of calm and mild weather a sudden change took place in the north of Scotland on the evening of the 15th inst. The gale played the greatest havoc in Duthie Park, Aberdeen, where the annual exhibition of the Royal Horticultural Society was being arranged. Three spacious marquees had been erected for the exhibits, one being set apart for cut flowers and fruit, another for pot plants, and another for vegetables. About half-past eight the wind increased to such an extent that those engaged inside became alarmed for their safety, and a general exodus was the result. Unfortunately, their fears were only too well grounded. A sudden gust of wind snapped the centre poles of the cut flower and fruit tent, and, in a twinkling, the canvas was flapping about in a state of wild disorder, the tables with the fruit being swept bare. The marquee for pot plants was the next to go, the canvas collapsing first at one end and then at the other. To add to the general chaos, clouds of dust from the walks were whirled about obscuring the vision, and tending greatly to the discomfort of the bystanders. Valuable Palms and other exotic plants were tumbled indiscriminately about to the despair of many exhibitors, some of whom had come from a distance. But the spectators were practically powerless to avert further disaster, and, in quick succession, the exhibition tents of Messrs. Wm. Smith & Sons and Messrs. James Cocker & Sons were reduced to a state of wreckage, while the Secretary's tent was soon a "thing of shreds and patches." An exciting scene was witnessed in connection with the fall of the plant marquee. The lamps inside had been lighted, and when the crash came the canvas caught fire at one end. A number of people were below the fallen tent, and it was feared that the flames, fanned by the furious wind, would spread so rapidly that it might be impossible for every one to escape in safety. No sooner was the situation apprehended, however, than many willing workers assisted in rolling up the canvas, and thus smothering the flames, with the result that the people below managed to crawl out uninjured. The loss to exhibitors was of necessity considerable, but thanks to their earnestness and determination a good show is said to have been held the next day.

difficult to make some old-fashioned bee-keepers we have met believe that the drone is the male bee, and directly its functions are over and food is becoming scarce the workers turn them out of the hive and destroy them.

One sure sign of a colony having a fertile queen is the turning out of the drones. A queenless stock never kills off the drones, although they may be on the verge of starvation, instinct having taught them that without the drones it would be impossible to obtain a fertile queen. It is interesting to observe the activity of the bees after a queen has been given to them after being without one probably for several weeks, instead of remaining about the entrance to the hive in a quiet listless manner. The drones, too, will be at once killed off. During the past few days we have united some driven bees of stocks of this description; the following morning the drones were found turned out on the alighting board. During a spell of dull weather in the height of the season drone brood is often turned out of the cells, but is replaced again directly fine weather sets in.

—AN ENGLISH BEE-KEEPER.



•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," S. Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

• Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Cypripedium venustum (J. C. S.).—The leaves are like, if not those of, the species named. The best soil for it is a mixture of two parts good peat, one part of chopped sphagnum, one part of thoroughly decayed leaf mould, and a portion of sharp silver sand. In potting an important point for consideration is drainage. This must be thoroughly effective, for, as the plant has no pseudo-bulbs to sustain it, it must not be dried off, as many other Orchids are, during winter, and if the drainage is defective the roots are sure to decay and the leaves shrivel. *Cypripedium venustum* is a cool-house species, native of Nepal, and flowers during the winter.

Fear Tree Dying (Y.).—The leaves do not reveal any malignant micro-organism, and the wood of the shoots is quite sound, also the pith and bark. The seat of the disease or injury causing the sudden browning and withering of the leaves is situated lower down, perhaps at the junction of stock and scion, which is sometimes affected by a fungus, the mycelium living in the cambial layer, or between the inner bark and outer wood, and girdling the stem of the stock causes the sudden collapse of the foliage, commonly termed "fire blight." This has been regarded as due to "bacteria," but the bacteria-like organisms are nothing more than the organisms by which the fungus produces a ferment, and thus breaks down living cells or tissue of the host plant. An excellent example was forwarded to us last season, and we were able to trace the work of the fungus in the junction part of the stock and scion till the latter was girdled and the tree had died, apparently from "fire blight." Sometimes, however, the fungus attacks the roots and spreads upwards in the stem to the point named and there girdles the stem, then the tree dies. We have also known the roots destroyed by an overdose of liquid manure, when the foliage suddenly collapses. In some instances, happily uncommon, similar disaster arises from poisonous substances purposely applied by evil-disposed persons, but of that, in this case, we can form no opinion.

Peaches and Nectarines for Early and Successional Houses (Practice).—Early house—Peaches: Hale's Early and Royal George; Nectarines: Early Rivers and Sanwick Elruge. Succession house—Peaches: ABee and Bellegarde or Dymond; Nectarines: Lord Napier and Pineapple.

Pruning Gooseberries and Currants (O. F.).—The bushes should be left alone until the leaves have fallen, then they must be pruned. The old Gooseberry bushes may be improved by thinning the branches judiciously, and encouraging young wood another year. Similar remarks apply to Currants, especially black, it not being possible to have good fruit without young wood. They also require liberal manuring.

Pruning Clematis Jackmanni (Idem).—The only thing you can do now is to thin the bushy growths, so as to secure thoroughly ripened wood, and in the winter or early spring cut the growths down to a few buds from their base. By this procedure you ought to secure plenty of both growth and flowers, the situation being open or well exposed to the sun.

"Scum" from a Pond for Light Garden Soil (J. A. C. C.).—The scum like a green seaweed, which blanches when dried, would be valuable for putting on light garden soil as manure, when decayed, both as a conservator of moisture and as a source of nitrogen and other nutritive elements. We have used similar after mixing with lime, one part best chalk or limestone (not magnesian), freshly burned from the kiln, to twenty parts of the "scum"—conferva, placing the latter in layers about 4 inches thick, and sprinkling the lime on each layer. In about six weeks the heap was turned top to bottom and outside to inside, and in another six weeks the compost was used as a top-dressing both in the garden and on grass land. According to Dr. Emil Wolff, the "scum" contains about 10 per cent. of soda in its ashes, and 2½ per cent. of chlorine, the latter probably combined with the soda in the plant as common salt, hence the smell of salt. As vegetable mould, it would probably be an excellent dressing for Asparagus beds. We have found nothing better for these than the debris of the rubbish heap, all the woody portions being burned, and the ashes mixed with the compost.

Worms in Soil (A. L. J.).—The white worms live on dead and decaying vegetable matter, and perform a useful office in the economy of nature by resolving organic matter more speedily into inorganic compounds—the essential food of plants. They are also a cause of "sickness" in various living plants by sucking the root-hairs and tender epidermal root tissues, setting up decay. There are several species of white worms. Those you sent in the leaf mould are named *Enchytraeus* Buckholzi, and attack the roots of Clover, Peas, and other leguminous plants, also Cucurbitaceae, such as Cucumbers, Melons, and Vegetable Marrows. They are about as large to the unaided eye as eelworms are when seen by the aid of a lens enlarging 200 diameters, or about 1½ inch in length. Air-slaked lime, which is only partially carbonate of lime, not quite like chalk or whiting, will kill them, but not in the proportion of a 6-inch potful to a barrowload of soil, or about 1 per cent., 1 in 100, for the lime scarcely permeates through so large a mass, while it loses causticity rapidly on account of the large amount of organic matter present. Two and a half per cent. we find necessary, but as this may be injurious to some plants, we frequently scald the mould some time in advance of using, and thus destroy all contained pests. Lime water is also effective, saturating the soil. The white worms have no connection with eelworms, except as belonging to the great division of the animal kingdom called Vermes or Annelida.

Hydrangea hortensis (Florist).—We presume you mean the growing of this plant in a dwarf state for producing one fine head of flowers. There are two ways:—1. Cuttings taken in spring from young growths that are not bearing flowers, inserting them in small pots singly, and plunged in a close warm frame. When rooted the plants are hardened, grown in low houses or pits during the summer, and well ripened in the autumn by exposure outside. 2. Let the old plants grow all the season, and in August select the tops of the most promising—the strongest, sturdiest, and most prominent shoots; make these into cuttings, which insert singly in 3-inch pots, and plunge in a little bottom heat, but not in an enclosed frame. The object is to encourage the formation of roots only, and when the cuttings are rooted gradually harden, and expose the plants to full sunshine and plenty of air in the autumn, to insure thorough ripening. When the leaves fade water should be withheld, and the plants kept dry (but not so dry as to cause shrivelling of the wood) in a cool greenhouse, or plunged in a frame, all the winter. About February, or earlier if desired, they are transferred to 5 or 6-inch pots, and placed in a temperature of about 55°. The plants quickly start into growth, and the shoots soon show the embryonic flower heads that have been formed in the buds the previous season, the corymb of flowers usually appearing after the formation of the fourth pair of leaves. All the plants, however, do not show for flower, as they may not have been sufficiently strong, but they will do so, if at all, at the fourth pair of leaves. These non-flowering plants may either be thrown away or kept for flowering another year. The late summer-rooted cuttings produce useful dwarf flowering plants in the spring or early summer, not exceeding 1 foot in height. Spring-rooted cuttings grown in pots for the next year are much stronger and taller in proportion. By the methods given the old plants are thrown away after flowering, unless required for bush specimens or for supplying cuttings, when they may be cut down, repotted, and grown in pots, or be planted out in the open air. A new stock, therefore, should be propagated annually. When the pots are filled with roots copious supplies of water are needed as growth proceeds, with occasional applications of clear soot water, for securing rich green foliage and supporting noble heads of flowers.

Early Vegetables on Fruit Borders (Scotland).—It is more or less detrimental to fruit trees to crop the borders with early Potatoes, Cabbages, and other crops; but we have practised it for many years, and had good crops of both vegetables and fruits. The thing is not to disturb the roots by cropping too near the stems of the fruit trees, and manure for the vegetable crops liberally, but not too excessively, so as to induce rank growth in the fruit trees and poor crops of fruit.

Azalea Indica from Cuttings (W. K. E.).—Most of the plants cultivated in this country are obtained by grafting choice varieties on a vigorous growing common Azalea, and in this manner they can be the most quickly grown to a serviceable size. Cuttings are not difficult to root, and own-root plants are usually the dwarfiest in habit. The cuttings should be made from young or this season's growth, which is now sufficiently firm for the purpose. They ought to be about 3 inches long, cut to a joint, and the lower leaves trimmed off. A bell-glass will be needed for covering them, and the pot used should be just large enough to enclose this inside of the rim. Well drain the pot, fill firmly with sandy peat, and finish with a thick surfacing of silver sand. Insert the cuttings thickly, taking care that they touch the bottom of the holes, and to fix them firmly, then give water through a fine rose and cover with the bell-glass. A gentle heat, or from 55° to 60°, is necessary, and the cuttings must be carefully shaded. After they are rooted, which is a slow process, remove them to a cooler house, and gradually remove the bell-glass. Pot singly in thumb pots, and keep them in a close frame till they have rooted into the fresh soil (fine peat and sand), pinch out their points, and keep them steadily growing, a larger shift being given as needed.

Grubs in Raspberries (Journymen).—You should have sent specimens. The insect that is found in the larval state in the fruit of the Raspberry is probably the grub or larva of the Raspberry beetle (*Byturus tomentosus*). It often causes great havoc, sometimes destroying, or rendering the whole crop worthless. The beetle is about one-sixth of an inch long by half as much broad, reddish brown, covered with grey pubescence; eyes black, limbs dull yellow. The females bore holes in the flower buds, and the larvae live in the fruit, which generally ripens. When mature, the larvae shelter themselves in cracks of the bark on the Raspberry canes and there form cocoons and become pupae. The beetles emerge in spring, and the females ascend the canes to deposit their eggs. Then is the time to destroy them. Sheets spread on the ground in the daytime and the plants shaken over them after dark capture great numbers, but some use shallow wooden trays smeared with gas tar round the sides, which prevents the escape of the insects, the trays being placed under the bushes, which are shaken over them after dark. The insects thus captured are easily killed by pouring boiling water on them in the trays. The females, however, sometimes remain on the plants by day, hence sheets should be spread on the ground without disturbing the plants, and the bushes then sharply shaken, which will cause them to fall on the sheets, where they can readily be captured and destroyed, as they are better seen by daylight than lamplight. Generally the beetles harbour by day under clods, and are very fond of hiding under pieces of old tree bark. These laid on the ground and seen to daily in the spring are a good means of riddance. The catching should commence directly the flower buds appear, and be continued until most of the fruit is set. The fertilised females are most abundant when the flowers are showing colour, but they feed on the plants before that time, and that is the time to set about their destruction at night.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (A. W.).—1, *Galeopsis Tetrahit*; 2, *Crinum amabile*; 3, *Diplacus glutinosus*; 4, *Gypsophila elegans*. (Amateur Reader).—1, *Kaulfussia amelloides*; 2, *Ophiopogon jaburan variegatum*; 3, *Lilium lancifolium rubrum*; 4, *Spiraea Menziesii*; 5, *Sedum pulchellum*; 6, *Fuchsia procumbens*. (G. H. B.).—1, *Gymnogramma chrysophylla*; 2, *Adiantum rubellum*; 3, *Pteris serrulata cristata*; 4, *Lygodium scandens (japonica)*; 5, *Polypodium aureum*; 6, *Asplenium bulbiferum*. (W. G. C.).—1, *Salaginella cæsia*; 2, *S. denticulata*; 3, *Lastrea filix-foemina*; 4, *Odontoglossum crispum*, very poor form.

TRADE CATALOGUES RECEIVED.

- W. Bull, Chelsea.—*Bulbs*.
 Ellwanger & Barry, Rochester, N.Y.—*Strawberries and Bulbs*.
 W. Fromow & Sons, Chiswick.—*Bulbs*.
 E. H. Krelage & Son, Haarlem, Holland.—*Bulbs*.
 J. R. Pearson & Sons, Lowdham Nurseries, Nottingham.—*Autumn List*.
 L. Spaë-Vandermeulen, Ghent.—*Special Trade List*.
 Sutton & Sons, Reading.—*Bulbs*.
 J. Veitch & Sons, Ltd., Chelsea.—*Bulbs, Strawberries*.

COVENT GARDEN MARKET.—AUGUST 16TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2 0	3 0	Melons each	1 0	3 0
Cherries, ½ sieve,	9 0	14 0	" Rock	2 0	4 0
" cooking, sieve of 24 lbs.	4 0	5 0	Nectarines, per doz. ...	8 0	9 0
Currants, red, per sieve ...	5 0	6 0	Peaches, per doz.	8 0	12 0
" black, per sieve ...	5 0	6 0	Pears, Californian, case...	8 0	6 0
Figs, green, per doz.	3 0	6 0	" French Williams',		
Gooseberries, sieve	2 9	0 0	36 to 56 in a case	4 0	5 0
Greengages, box of 40 to 48	1 8	2 3	Pines, St. Michael's, each	8 0	6 0
Grapes, black	0 6	8 0	Plums, English, per sieve	6 0	7 0
Lemons, case	14 0	20 0	" Californian, case...	4 0	8 0
Greengages, French, sieve	9 0	12 0	Raspberries, doz. punnets	6 0	9 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 0	2 0	Leeks, bunch	0 2	0 0
Aubergine, per doz.	1 6	2 0	Lettuce, doz.	1 8	2 0
Beans, ½ sieve	2 6	3 6	Mushrooms, lb.	0 6	1 0
" Longpods, ½ bushel	1 0	0 0	Mustard and Cress, punnet	0 2	0 0
" Scarlet, sieve	2 6	3 0	Onions, bag, about 1 cwt.	4 0	4 6
Beet, Red, doz.	0 6	0 0	Parsley, doz. bunches ...	2 0	4 0
Cabbages, per tally	7 0	0 0	Peas, per bushel	8 0	6 0
Carrots, per doz.	2 0	8 0	Potatoes, new, cwt.	5 0	8 0
Cauliflowers, doz.	2 0	8 0	Shallots, lb.	0 8	0 6
Celery, n.w. per bundle ...	1 9	0 0	Spinach, per bushel ...	0 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	4 6
Endive, doz.	1 6	2 0	Turnips, bunch	0 8	0 4
Herbs, bunch	0 8	0 0	Vegetable Marrows, doz.	1 0	1 6

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8 0	4 0	Marguerites, doz. bnchs.	3 0	4 0
Asparagus, Fern, bunch...	2 0	2 6	Mignonette, doz. bunches	4 0	6 0
Carnations, 12 blooms ...	1 0	2 0	Montbretia, per bunch ...	1 0	1 6
Eucharis, doz.	4 0	6 0	Orchids, var., doz. blooms	3 0	16 0
Gardenias, doz.	1 6	2 6	Pelargoniums, doz. bnchs.	4 0	6 0
Geranium, scarlet, doz.			Roses (indoor), doz. ...	2 0	8 0
bnchs.	4 0	6 0	" Red, doz.	1 0	2 0
Lilium Harrisii, 12 blooms	8 0	4 0	" Tea, white, doz. ...	1 6	2 6
" longiflorum, 12 blooms	4 0	6 0	" Yellow, doz. (Perles)	2 0	8 0
Lily of the Valley, 12 sprays	0 0	10 0	" Safrano, doz.	2 0	2 6
Maidenhair Fern, doz.			Smilax, bunch	8 0	4 0
bnchs.	4 0	6 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	86 0	Foliage plants, var., each	1 0	to 5 0
Aspidistra, doz.	18 0	86 0	Fuchsias, doz.	4 0	6 0
Aspidistra, specimen ...	15 0	20 0	Heliotropes, doz.	4 0	6 0
Boronia	12 0	18 0	Hydrangeas	6 0	10 0
Crotons, doz.	18 0	60 0	Lilium Harrisii, doz. ...	12 0	18 0
Dracæna, var., doz.	12 0	30 0	Lycopodiums, doz.	3 0	4 0
Dracæna viridis, doz. ...	9 0	18 0	Marguerite Daisy, doz. ...	6 0	8 0
Erica various, doz.	30 0	60 0	Myrtles, doz.	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	" specimens	21 0	68 0
Ferns, var., doz.	4 0	18 0	Pelargoniums, scarlet, doz.	4 0	6 0
" small, 100	4 0	8 0	Stocks	4 0	6 0
Ficus elastica, each ...	1 6	7 6			

Bedding out plants in variety from 3s. doz.



THE AGRICULTURAL PUZZLE.

WELL, we will call it "difficulty." What is the chief difficulty which confronts the farmer at the present day? It is not the difficulty of making ends meet; it is not that of keeping his live stock healthy and thriving. No; it is that of getting the work of the farm done at all—that is to say, in a workmanlike way. The question of cost, which in other businesses is the first consideration, has here to take a second place, but in itself is a matter serious enough, for if the labourer were to take his wages out in Wheat to-day at market price he would receive three times as much per week as he would have done forty years ago.

The price of Wheat has fallen more than any agricultural commodity, but other articles have declined in price as well, and we fancy that a calculation of the purchasing power of the wages of the farm labourer would show a very startling contrast to such a one—

forty or fifty years ago. Almost everything he has to buy is 50 per cent. cheaper than at that period, whereas the farmers' share of the produce of the farm being in kind, not in cash, when turned into the latter very necessary material is found to be somewhat of a *reductio ad absurdum*. If we take as an example a typical arable farm, 20 per cent. grass, and put the produce at a fairly good estimate as follows:—

	1855-65	1899
Wheat 1 qr. per acre.....	£2 15 0	£1 6 0
Barley 1 qr. " "	1 15 0	1 6 0
Mutton 40 lbs. " "	1 3 4	1 1 8
Beef 25 lbs. " "	0 16 8	0 12 6
Wool 9 lbs. " "	0 13 6	0 5 9
Pork 14 lbs. " "	0 6 6	0 5 6
	£7 10 0	£4 17 5

Here we show a gross depreciation per acre of £2 12s. 4d., or 35 per cent., and unless our figures are in error the farmer is bearing the brunt of the burden of depression.

But all this is entirely apart from the question which we at first raised, that of the actual supply of labour, cheap or dear. The fact is that useful farm hands cannot be had, although the wages offered are in money value higher, and in purchasing value immensely higher, than those formerly paid. How is it? Well, for one thing there is very little female labour in the fields nowadays. England has become such a mass of mansions and villa residences that the supply of domestic servants has run short, and no wonder, when we see all the smartest girls from the lower middle classes working at the desk, the telegraphic instrument, or the typewriter. The girls from the lower classes can now obtain situations in towns at good wages, and do not need to give a reference. Is it to be wondered at that there are none left in the country?

It is this dearth of female and child labour that accentuates and makes so serious the absence of skilled men. We do not mean that we would go back to the days when 4d. per day was the top wage for the crow tenter; but now the farmer who wishes to keep the rooks from his new sown grain may have to pay 14d. for a tenter, and may have much difficulty in obtaining one at that price. The schools are made so pleasant to the children, and they are taught so many interesting things, that they are loth to leave their schoolmaster for the open air and freedom of the fields, even when pressed to do so by the parents anxious for their children to be earning a livelihood.

No doubt there is much to be commended in this, and from one point of view Sir John Gorst and his colleagues of the Board of Education deserve well of their country; but how is the farmer to get his work done? How is the labourer to be retained in the village?

The energies of the Education Department are now directed towards the extension and improvement of secondary education, and the Grammar and other local middle-class schools are to be subsidised and brought into touch with the red tape of the Board of Education. No doubt this will have a wonderful effect in encouraging the production of lawyers, parsons, doctors, and such like, of whom we already have too large a supply; but it will not do anything to help the farmer in his search for skilled artisans of the farm, but will, on the contrary, still further encourage rural depopulation. People will no doubt say, You have had gratis the advantages of technical education as administered by the County Councils, and the village people have made such poor use of their opportunities that the money has been diverted to the towns, who better appreciate it. But the great drawback to the utility of the Technical Education Act lay in the prohibition of its application to elementary schools, and if in the future any effort is to be made to teach the people how to remain in, and make the best of, rural England, the first lessons must be given at the village schools.

We must cease to cram the boys and girls of the village with knowledge only suitable for town life; but having taught the three R's, and trained the mind to habits of thought and reflection, we must take a lesson from our continental neighbours, and form an agricultural side to the school by sending the master or some other

properly qualified teacher into the fields with his class, to give his pupils practical instruction in the forces of Nature, and teach them how to use those forces for the benefit of themselves and others.

Impressions thus stamped on the youthful mind would be far more lasting and far-reaching than any that can be acquired later by attending intermittent courses of technical lectures. The pupils will have been taught to see with their own eyes and hear with their own ears, and not to depend for knowledge on the text-book and the daily paper.

[The remarks of our able coadjutor on appropriate education in rural districts are excellent. For years past much of the teaching imparted in village schools has been inappropriate; but apart from that the present scarcity of labour is in no small measure traceable to another cause, the effects of which were not foreseen in the old prosperity days, that were then mistakenly thought would endure for ever.]

WORK ON THE HOME FARM.

Harvest is now quite general; the dry weather and heat have ripened off the corn very rapidly, and some of the Barley too quickly. It rubs out a nice bright sample, but there will be a good deal of small. Binders are at work almost everywhere. A thirty mile journey through an early district took us past scores of fields recently reaped, and we only saw one which had not been done with a binder. Farmers have no choice, for extra men cannot be had. Trade is good in the towns, and men cannot be spared, whilst the immigrant Irish are much less numerous than formerly. Either matters at home must have improved or the competition of the string-binder has been too strong for them.

There is one thing in the harvest field which we do like to see well done, and that is the stooking of the sheaves. When stooks are well made they seldom get very wet, and at least it takes rain a long time to penetrate them. The stooks not only look better when placed in straight even lines, but much running to and fro is saved when the carting day comes. Do not be afraid to make the stooks too long. If rain comes the end sheaves get wetted the most and take longest to get dry, so the longer the stook and the fewer the number of corner sheaves the better.

Last week Turnips were in a parlous state. We saw many fields full of withering leaves lying down to die; fortunately the wind became cooler, and after a couple more days we had a beautiful night's rain, which revived things wonderfully. The land is now almost if not quite as dry as ever, and we are longing for more rain notwithstanding the harvest. As a fact a nice rain on the Barley stooks would do them good, and make the Barley malt better.

The August lamb fairs are here, and trade is very bad. No wonder, as the root prospect is so poor. Good useful lambs can be bought at £1 per head. No one dare speculate, for fog and old pasture are dear, and there is only a poor growth after the mown seeds. Many flockmasters are anxious as to the outcome of the next eight weeks.

The Lincoln annual ram fair, fixed a month earlier than usual, ended in a regular slump, half the animals having been passed, and those sold realised about half the price of last year. The invincible Mr. Dudding made an average of £75 each for five sheep, and was the only one with an increased average.

[A sum of £375 for five sheep does not indicate particularly bad times, as times go, for Mr. Dudding, though we very well remember one animal realising £300.]

COLLEGE OF AGRICULTURE, DOWNTON, SALISBURY.—The summer session of this College terminated on Thursday, August 10th, when the following awards were made:—The College diploma after two years' residence and passing in all subjects taught, to Percival Hurlbutt, Dee Cottage, Queen's Ferry, and T. S. Bliss, Queensbury, Cobham, Surrey. The College scholarship of £15, to H. Hineke, Terrace House, Richmond, Yorks. The Reginald Bles prize (£10), to John Benson, Harnage, Shrewsbury. The Wrightson prize (£10), to O. F. C. Yarborough, Camps-mount, Doncaster. Certificates of practical proficiency, to Hurlbutt and Bliss. The following prizes were also awarded:—To H. R. Board, Farley, Westerham, Kent, for agriculture, chemistry, building construction, veterinary science, botany, collection of grasses, and collection of farm weeds. To J. Benson, for agriculture, chemistry, practical chemistry, surveying and levelling, building construction, veterinary science, and botany. To A. D. Phillips, of Heybridge, Tean, Stoke-on-Trent, for agriculture, practical chemistry, veterinary science, and botany. To K. B. F. Foyster, All Saints' Rectory, Hastings, for chemistry and attention to farm. To T. S. Bliss, for practical chemistry, surveying and levelling, and knowledge of live stock. To W. D. Heskett, The Hollies, Penrith, for surveying and levelling and building construction. To H. Hineke, for collection of grasses. To P. Hurlbutt, for milking and waggon driving. To M. R. Heath, 29, Warrior Square, St. Leonards-on-Sea, for attention to farm. To F. B. Toms, Crosswood House, East Molesey, for attention to farm.

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THURSDAY, AUGUST 24, 1899.

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THE PASSING SUMMER.

NOW that gardens are full of the gaiety of the
Dahlia and the hundred and one half-hardy
flowers with which the gardener can fill his beds
and borders with blazing colours, the lesser bright-
ness of the hardy plants seems eclipsed. It is softer
—dare one say—less meretricious, and less alluring?
The best season is over, and we begin to see the
soft, soothing colours of the Starworts appear—
true harbingers of the quiet season. Yet there is
brightness enough if we provide ourselves with the
best flowers of the time.

The great annual Sunflowers are less often seen
now that the ultra "æsthetic" cycle has run its
course. Fine as they are, their sisters of perennial
habit have their beauties as well, and have merits
of their own. Now is their time of glory; now
the day when they give their varied blooms to
fill the gardens with gold. Very beautiful are
such single-flowered Sunflowers as Helianthus
decapetalus, H. multiflorus or Helianthus rigidus—
better known still as Harpalium rigidum. The dry
weather has checked the opening of H. Miss
Mellish, but the rain now falling, and welcome to
all save the harvester and the holiday maker, will
soon bring it into flower. The new Sunflower,
raised at Rothesay, and named Daniel Dewar, in
honour of one of our best informed hardy plants-
men, is here, but will not, one fears, bloom this
year. Then there are the double forms, such as
H. multiflorus plenus, H. Globe d'Or, and a few
others, which always please. Fine, too, in its own
way, though somewhat tall for my taste, is the
double Rudbeckia laciniata Golden Glow. Though
not a Sunflower, it is, to those unacquainted with
flowers, sufficiently like one to be so called by
them. In strong rich soil it assumes almost
gigantic proportions in height, and its flowers are
finer than in our light dry garden.

From this unique Rudbeckia we pass naturally
to the others, which form part of the treasure of
the time. Less novel than Golden Glow, yet
perhaps even more liked, are the purple-flowered
Rudbeckias known as R. laciniata and R. purpurea.
With their high cone-like centres, and long,

No. 2656.—VOL. CL., OLD SERIES.

drooping rays, their distinct appearance and colour give them high value in the eyes of those who are of the cult of hardy flowers. Then there are the pretty *R. tomentosa* and the ever-valued *R. speciosa*, with others of greater or lesser worth.

Ere we wander far from the Rudbeckias or Coneflowers we must pause for a moment to look at some of the Heleniums, whose tasselled blooms help to make up the gold of the autumn days. Pretty and valuable as *H. autumnale*, *H. pumilum*, and *H. Bolanderi*, lighter than these and more elegant, are the *Coreopsis*, whose grace is, in some species at least, apparent to all. One species the writer has admired since he first saw it nigh upon a score of years ago. This is *C. verticillata*, whose elegant foliage combined with its pretty flowers makes it one of the prettiest of our autumn composites. Fine, too, is *C. monstrosus*, a variety of either *C. lanceolata* or *C. auriculata*. It is an unhappy use of language which applies to so pretty a flower the word "monstrous." It is grossly inapplicable, though the flowers are larger than those of the type from whence it comes. We have, also, the very beautiful *C. grandiflora* whose only fault in our eyes is that it is often too short-lived, and needs to be grown from seed to keep up one's stock.

Leaving the *Coreopsis* we are drawn to the *Anthemises* or *Camomiles*, whose best blooms are, perhaps, over, but which, if kept cut back, will give fresh flowers till the hand of winter touches it with its icy grasp. The thought of them now transports one in fancy to the famous garden at Edge where, in front of a hedge, the writer once saw a line of the *Anthemises* in gallant array, a row of starry, golden flowers, a sight which, once seen, elevated the flower to a higher place in one's estimation. More gold still! The precious metal, or its colour at least, is scattered thick as the leaves in *Vallambrosa* over the garden of the time. It is from the towering *Mulleins* mentioned in our last note. It is from the tall biennial *Evening Primrose*, a disappointing flower on a bright day, but a glorious one when the shades of night come on, or when awaking in the early morn, we see it standing in the day-dawn, a tower laden with soft yellow shallow cups of bloom.

Doubly pleasing because of the showers of gold around are the blue and purple flowers of the season. We need among the tasselled yellow flowers those graceful spikes of blue or white given by the *Veronicas*. There is much beauty in these *Speedwells*, and those who grow them will think them not unworthy of bearing the name of that gentle woman whose compassion—true or imaginary—has caused the name of *Veronica* to be held in high regard. The *Veronicas* are numerous, and one cannot refer to them in detail. Whether of herbaceous or of shrubby habit; whether tall and wand-like, or creeping close to the soil, almost all are beautiful in their way.

Long past is St. John's Day, to which the *Hypericum* by its popular name of St. John's Wort has been inseparably attached, yet we have the plant in bloom. Everyone admires the sub-shrubby species, such as *H. patulum*, *H. calycinum*, or the hybrid—surpassing nearly every other—*Moserianum*. A few flowers left on a plant of the tiny little *H. nummularium* caught the eye of a hardy plantsman who was in my garden the other day. The writer was absent, but came in and found him studying this little alpine with delight. A pretty little flower, growing only a few inches in height, it is hardy and beautiful enough to please those to whom the large, and to me, charming flowers of the larger species do not commend themselves.

Though one rejoices at the rain, which will save the labour of plying the watering can, the joy is chastened by a sight of one's big bush of *Olearia Haasti*, which on the rockery has been covered with crowded Daisy blooms. Like *O. stellulata*, its flowers delight in dry and sunny weather, in which they long retain their purity and beauty. After rain they quickly lose their colour, and the counterfeit of Chaucer's favourite flower soon grows unsightly.

Again must one lay down the pen; again lament an unfinished tale. Jackman's *Clematis* is full of bloom by the window and over the doorway. Behind the house *Clematis flammula* covers a little pergola, and mounts the gable to gratify its longing to curtain the chimney with its dangling sprays. Starry are

its flowers, beautiful because of their number, lightness, and softness. Perennial Peas—less varied in their hues than the Sweet Peas grown for their beauty and their sweet perfume—climb trellises and cover them with clustered heads of flowers. There is a shimmer of lilac on the earlier Michaelmas Daisies, and soon we may be on the alert for the appearance of the Meadow Saffrons and the autumn Crocuses. Already the autumn Snowflake—*Leucoium autumnale*—dangles its exquisite little flowers from their slender stalks, and the autumn Cyclamen has thrust its flowers up from the bare soil.

The garden of hardy flowers is a moving picture, but its mechanism is unseen and unfelt. There is no jerking, no feeling that the "machine" is at hand, as in the cinematograph. It is the gentle, unhurried movement of that power which, through countless ages, has pursued a great plan unerringly, and has in that colossal task ceased not to clothe the earth with beauty to refresh and give joy to feeble man.—S. ARNOTT.

PEAS IN 1899.

FOR weeks past outdoor gardening has been wearying work. True, we have had some violent thunderstorms, which have made the farmers look sorrowfully at the corn, beaten down to the ground; but we gardeners felt thankful for the storms, in spite of the harm they did. They gave us a respite for a few days at any rate, and any change from the constant slush, slush of the watering can was welcome. It was not for long, however; the torrents of rain have fallen at wide intervals like waterspouts, the dry parched earth drank in the moisture, and vegetation looked like a giant refreshed. But King Sol was only resting, and burst forth with all his pitilessness, the surface-sodden ground baked and cracked, and a few hours after the rain ceased there was no trace of moisture left.

I cannot say that the season up to now has been entirely unfavourable, or that we have reason to complain very much, considering how seasons go in this fickle climate; but it is sad about the Peas. It seems so long since we had a really good Pea year that one is apt to become disheartened, and set the crop down as being one of the garden's uncertainties. Never were prospects brighter, and it is only fair to the clerk of the weather to say that never have we had better crops of early Peas. The sad part of the story, however, has yet to come, and when we were picking basket after basket of delicious Green Peas from the rows of *Chelsea Gem*, *Daisy*, *Gradus*, and the rest of them, the succession crops close at hand looked a picture of vigorous health. The haulm was of that vivid green we so like to see, blossom showed in quantity, and the sticks looked hardly strong enough to support the crop.

Our hopes, plans, and forecasts have been turned topsy turvy, and we are obliged to write failure near the names of most of the successional Peas. At first it was only a whispered fear, and a hope that we should get rain soon. A yellow change in the haulm close to the ground mounted higher up the stem, flowers failed to set, or only resulted in small spotty half-filled pods, and then a plague of thrips came, just to put the finishing stroke on, and after that despair. True, some of the once healthy rows retained vigour enough to fill the pods, and a favourable reply went back to the kitchen in response to an inquiry as to whether there were any Peas. It was a bad move, though, for every other pod was tenanted by maggots, and the cook has not yet regained her evenness of temper.

Gardeners who have kitchens to supply are worried to know how to keep up a continuation of the delicious Green Peas from the early rows. Some struggle manfully against the opposing forces of Nature, others have thrown up the sponge, and many are asking a very natural question, "What is the best treatment for Peas during a dry season like this?" Everybody can advance his own theory, and this, I think, would form a very suitable subject for a little controversy by practical growers in these columns. In the first place, I do not think there is a great deal in variety, so far as withstanding drought is concerned. There is a large number of good Peas on the market at the present time, and I have grown a selection side by side for trial. Some of the latest sorts maintain a healthy appearance, but I do not see much to choose in the second early and main crop sorts, all of which fall prey to thrips and maggot.

Many growers pin their faith on watering and mulching to keep the Pea crop going, but others again question the wisdom of it, while personally I am short of water, and the idea of sparing any of that commodity for the Peas is out of the question. I think the most that can be done to save the Peas in dry seasons must be effected before we know whether we are going to have a dry season at all, or when the ground is being prepared for the reception of the seeds. Experience has proved to me that good farmyard manure and manual labour are

the two best antidotes against the effects of drought and burning sunshine. If food and moisture are in the ground the roots will go down in search of it, and having found it, the Peas will last longer than by any artificial aid from the water-pot. A wide trench, two spits deep, a coat of manure spread on the bottom and worked in, another between the top and second spit, and you have a reservoir for the plants to draw on when the earth is parched and the sun pitiless.

Something can also be done in the way of selection of sites for Peas, as there is no need to say how much better the crop is lasting where the medium is moist and retentive, and where partial shade is afforded, than where the rows are exposed to every glare of sunlight and the soil is dry and shallow. And lastly, if the water is given, do not forget the mulching to conserve the moisture in the ground. I am of the opinion, however, that it is a mistake to use the watering can in the kitchen garden in preference to the spade. Water is an untold blessing at times, and fortunate are the gardeners who have an unlimited supply; but it should never be forgotten that a storehouse of food and moisture can be provided in the ground itself by digging deeply and manuring freely.—G.

RAISING AND GROWING ASPARAGUS.

HAVING of late received more inquiries than usual on raising and growing Asparagus, and two yet unanswered, a portion of Mr. George Norman's practical paper on the subject, in the July issue of the "Journal of the Royal Horticultural Society" (an enlarged and excellent issue), will not be unacceptable. Mr. Norman also refers to forcing, but the citation is confined to outdoor culture, as follows:—

The chief districts in England famous for growing Asparagus are Cambridgeshire, Worcestershire (especially the Evesham district), Essex (about Colchester) and in the Thames Valley near London. The best home-grown outdoors Asparagus that is sent to Covent Garden Market is produced in these districts.

In Scotland, the south-western parts, comprising the counties of Ayr, Wigton, and Kirkcudbright, are specially favourable. The soil in many places is a rich sandy loam, and the maritime situation, together with the influence of the moisture-laden atmosphere from the Gulf Stream, have a very beneficial effect. Its cultivation is, however, almost entirely confined to private gardens.

On the cultivation of Asparagus in Scotland, it may be here interesting to quote from a paper on the supply of vegetables to the Edinburgh and Glasgow markets, read before the Scottish Horticultural Association by Mr. J. Scarlet of Inveresk. He says, "There is practically no Asparagus grown in Scotland for market. English, French, and Spanish have ousted home-grown to such an extent that the one or two growers who used to bring anything like a quantity have discontinued its cultivation. This is due probably more to the lateness of the home crop, compared with that of other countries, than to any unsuitableness of soil or climate."

SOIL.

Rich sandy soil of good depth is naturally the best adapted for Asparagus, and in such soil its cultivation is an easy matter. But in these days, whatever the nature of the soil of a garden may be, the cultivation of Asparagus is looked upon as an absolute necessity, and the fact is often lost sight of that if the soil be of a clayey nature and shallow, the produce under such conditions cannot possibly bear comparison with that from a soil naturally suitable for the growth of this plant. With labour and materials at command, heavy, clayey soil may be in time brought into a light, porous condition by the addition of sand of the best kind procurable—sea, river, or grit, sandy deposits from drains, road scrapings, burned earth, and lime, brick, and rubble from old buildings, all these are excellent for rendering soil permanently porous.

Whatever the soil may be, leaf mould, peat, light fibrous loam, old hotbed material, seaweed, and farmyard manure (especially that from cows), I have found to be the best fertilisers. The last named is practically indispensable, for the soil can scarcely be too highly manured, as good quality depends on quickness of growth, which is assisted by richness of soil.

DEEP CULTURE.

Asparagus is a deep-rooting plant. Frequently after doing away with old beds I have found the soil permeated with roots to the depth of 30 inches; consequently in preparing the soil for planting, it should be made 30 inches deep by trenching, adding, and mixing in the materials already named, from the bottom to the surface as the trenching proceeds, in quantities as required according to the nature of the soil. The advantages of deep trenching and increased depth of rooting medium are that the roots descend so that they do not suffer so much from want of moisture in dry seasons, and it also assists the free percolation of water in wet seasons. For although Asparagus is a seaside plant it will not thrive in stagnant ground, and if the subsoil

is of a clayey, impervious nature, insufficiently drained, this defect must be remedied by agricultural drains, put in before doing the trenching, or a layer of a few inches of old brick, rubble, or cinders will form an effective drainage if placed at the bottom at the time of trenching.

In considering the situation of the ground, the best is that with a slight fall to the south, well sheltered on the side whence come the prevailing winds. For climate, the southern parts of the country are the most favoured.

VARIETIES.

Asparagus, like other things, to be in the fashion must be large; size, which does not sacrifice quality, is due to soil, cultivation, and situation, and not to any special varieties, as there is believed to be but one. "Red Topped" or "Dutch," and "Green Topped," and the names of places famous for its cultivation, have been given to supposed varieties of it; but variations in size and in colour are, in my opinion, due entirely to the circumstances under which it is grown.

RAISING AND MANIPULATING.

The month of March, when the surface of the ground is dry is the best time to sow the seed, thinly, in drills an inch deep, the drills a foot apart, at the rate of $\frac{1}{2}$ oz. to 15 yards run of drill.

The trenching of the ground should be completed in autumn, six months before the time for planting, so that the ground has time to settle, and in March, when it is in a suitable condition to work on, the surface should be forked over and made even, after which it will become friable and settled by planting time.

Asparagus is a plant that is amenable to transplanting, providing it is done at the right time, and reasonable precautions taken not to let the roots become dry. When the shoots are grown to a length of 3 or 4 inches is the best time to transplant, but the young shoots had better be longer than this, then transplant before the vital powers have become active.

PERMANENT PLANTATION.

Some growers continue the old raised beds, and some have introduced the level plot system, adopting it from the French; but, whatever the system, the rows should run in the direction of north and south.

I have tried various modes of planting. The one I have found the best and most expeditious is to cut out a trench with a spade by the side of a line, 6 inches deep, and slanting, in the same way as for laying Box. The roots should then be spread out quickly, and carefully covered with soil, leaving the crown of each plant about 2 inches beneath the surface. Care should be taken to separate the plants so as not to have two crowns where there should be but one. After planting, a good watering should be given to settle the soil, and further waterings must be given as often as required, according to the weather, until the plants are well established.

DISTANCES.

The distance apart of the plants depends on the system followed. Both have their peculiar advantages. The bed system is the one generally employed, and it is the best where the soil is shallow and the subsoil is of a cold, clayey nature; but where the soil is light and rests on a dry subsoil the plot system is the best, particularly in dry seasons.

A width of 5 feet for a bed, and 2 $\frac{1}{2}$ feet alley between beds, is very suitable for the growth of the plants and for carrying out the necessary work in the different seasons. Three rows are planted in each bed, one in the centre and one on either side, leaving 18 inches between them. The distance between the plants in the rows should be 2 $\frac{1}{2}$ feet.

With the plot system the distances between the rows should be 4 feet, and 18 inches between the plants in the rows.

These distances by some may be considered unnecessarily wide, but they are not so, for if good results are to be obtained the plants must have room for the tops to fully develop without crowding. The French give even more space than this—they allow 4 feet from row to row, and 3 feet in the rows.

One-year-old plants are much the best; if older they do not transplant so well. Some recommend the sowing of seeds in the permanent beds or plot; by so doing, the ground, according to my experience, is occupied by it one year unnecessarily, as one-year-old plants do equally well.

DRESSING AND MANURING.

During the season of planting, besides watering, attention to weeding is all that is required. In the autumn or early winter, after the tops are dead and cleared off, a dressing of decayed manure should be spread on the beds, a stake driven in the corner of each bed, the sides marked off, and about 3 inches of soil from the alleys placed over the manure; or, in the case of the plot, the manure is dug in between the rows. About the same time in each year afterwards a dressing of manure or seaweed is required to be dug in, and the surface left rough. In the spring, before the shoots begin to push, the surface

should be made smooth with a rake, and this is the best time to apply a dressing of salt, not only for its saline qualities as a manure, but it also kills insects and weeds. Of artificial manures I have found nitrate of soda to produce a marked effect when applied early in the spring, to old beds past their best. Where the soil is not of so calcareous a nature as desired, a dressing of fresh lime applied early in the spring will supply the defect.

CUTTING.

On the cutting of the crop there is but one opinion of the time to begin on a new plantation, and that is not until the third season of growth; and my advice is to cut them but very sparingly, only taking about two early cuttings of the strongest shoots. After the third year they may be considered in bearing order, and, with liberal and careful management, will continue so for a dozen years or more. Of how to cut, different rules have been advocated by different growers; some cut all that rises above ground until the middle or end of June, others only take the strongest shoots and leave the others to grow up, and no doubt this latter is the best rule, only then more ground must be devoted to Asparagus, a matter which all growers cannot afford. Personally, I adopt a medium rule, by cutting all that rises till the middle of the season—i.e., about the middle of May, and after that only the strongest shoots till June 15th, and if, by any chance, emergency demands a cutting later, it is very reluctantly supplied.

SUMMER GROWTH.

After the cutting season, growth must have time to develop and ripen before the autumn. On the vigour of the growth to a large extent depends not only the size of the shoots the following year, but even the life of the plants. Many beds are ruined through over-cutting. I have even heard a gardener say that to have good Asparagus, beds should be cut from only in alternate seasons.

As so much depends on the maturing of strong growths, care must be taken to protect them against wind. A few Pea stakes stuck into the ground amongst them, for the tops to lean against, form a good wind guard.

GREEN AND BLANCHED PRODUCE.

The taste in England hitherto has been for green Asparagus, and to have it in this condition it is allowed to grow 3 or 4 inches above the surface of the ground, and then cut 2 or 3 inches below it. The French prefer it blanched, and their method seems to be gaining favour in England. To have it in the French style a greater depth of soil is required over the roots, and the shoots must be cut when they are seen to be heaving up the surface of the soil. The plot system is the best for this; the soil may be drawn over the rows on both sides, in the way in which Potatoes are earthed up, and the time to do this is just before the shoots begin to push. At Hatfield we usually begin to cut Asparagus outdoors about April 15th, a few days earlier or later according to the season.

NOTES ON THE VEGETABLE CROPS.

This has not been a favourable season for the growth of vegetables in this neighbourhood, and many of the crops are unsatisfactory. This state of affairs may be attributed more to the unfavourable season than to injury caused by insect pests. The weather has been very changeable, and we have had such extremes of temperatures. Nearly the whole of May was wet and cold; the rainfall was by no means excessive, but there were so many wet days in succession, with an absence of sunshine and low temperatures, that vegetation was almost at a standstill; in fact some crops appeared to be dwindling away altogether. When the weather did change it became very hot, and for four weeks we had no rain, indeed there has been very little rain since May.

Peas have been the greatest sufferers, and with the exception of a few rows each of William I. and Exonian growing on a warm border and sheltered from the cold winds, this crop has been the worst I have had for several years. Most varieties germinated well, but when about 6 inches high stopped growing, and for some time presented a very stunted appearance. They appeared to be affected by a kind of blight, the young growths being quite browned and the leaves curled. Several varieties only attained to about half their usual height, and the produce is inferior in quality as well as small in size.

Spring sown Onions have done remarkably well considering the season, although like Peas they presented a sorry appearance in their young state. During the cold time in May they turned quite yellow, and many of the plants succumbed. On the advent of better weather, however, and the application of a few dressings of a suitable fertiliser they have improved, and there will be a fair crop, but the bulbs generally are undersized. The maggot has not been very troublesome. This year tap-rooted vegetables, on the whole, have made the best progress, and so far are clean and healthy, especially Parsnips. Carrots are an uncertain crop in this soil, and in a very dry season they all go off. This year, strange to say, they are standing the drought well, the roots being clean and bright; but unless we soon have a good rain, I am afraid they will not survive.

Celery is doing well, and though greatly in need of rain, is making good growth. During its early stage it received good waterings, and a thick mulching of lawn mowings, which have greatly assisted the plants. Last year the Celery fly did much damage, and the plants were looked over several times, and all infested leaves pinched off and burnt. This season, I am glad to say, the plants are so far free from this pest. The Turnip fly has done a considerable amount of injury, and we have had great difficulty in getting not only a crop of Turnips, but nearly all the Brassica tribe as well. The intensely hot and dry weather coming just after our greens were planted has caused the death of hundreds, they being completely devoured by the fly. We have had to plant Cauliflowers, Broccoli, Savoys, and, in fact, nearly all kinds of greens a second time.

Gooseberry and Currant bushes, wall trees, and most things in the garden were infested with the flies, although no harm was done to these. This is the first time that the fly has destroyed my crops of greens, and I was under the impression that it was rather an uncommon occurrence.

A short time since, however, I noticed in the Journal (page 4) a case where the writer was complaining of the injury done in his garden, and stated that he nearly always had a difficulty in getting good crops. I have tried several things against the pest, such as soot, lime, quassia extract, and petroleum emulsion. The latter has proved the most successful, and though applied during bright sunshine, it has not injured the plants; in cases of very bad attack, it will be necessary to spray the crops twice a day.

In consequence of the damage by fly and the continued dry weather, our crops of greens, with the exception of Brussels Sprouts, are most unsatisfactory. Many plants have died, while others are making very irregular growth. Amongst the Cauliflowers there are many blind plants, although they were carefully examined prior to planting. Broad Beans, as well as Kidney and Scarlet Runners, are doing well. Early Potatoes have been good, especially Sharpe's Victor, and are quite free from disease. Second early and late varieties were good until about the last fortnight, but now show signs of distress from the drought, and I am afraid the tubers will be small.

A short time since I was through a number of cottage gardens on two different estates. The crops on the whole were looking very well, and appeared to be free from insect pests, but the effects of the unfavourable season were plainly apparent. Peas made a poor show, and in only a very few cases was a good row to be found. I should be glad to hear if Peas have been similarly affected in other parts of the country.—J. S. UPEX, York.

QUALITY IN FRUIT.

THE best judges of fruit usually admit that colour and flavour are the test of quality, and leave size out of the question, or rather, give it a very secondary place. This is quite right; size in the abstract is a fault in many fruits, but then size often means improved quality. Take that excellent Peach Alexandra Noblesse. There are often very large fruits of it; they usually lack colour, and possibly anyone unacquainted with varieties would be apt to choose a brighter-looking, perhaps a smaller Peach. They would do wrong. A large Peach is better than two half the size, for there is only one stone and only one rind, the outer surface of one large fruit being less than that of two small ones. This means an additional quantity of edible flesh, a great advantage to the fruit.

Again, take a large bunch of any good quality Grape, such as Madresfield Court. The individual berries will be larger if the bunch has been properly thinned, and the flavour is not harmed in the least. The large bunch shows superior culture and is the better. Gros Maroc may be better in colour, the bunches may be compact and well made, but no one could say that Madresfields of good quality are not better than the best Gros Maroc ever grown.

Size may often, as I have said, be a disadvantage. For a small number of guests it is wrong to grow extra large Melons. This luscious fruit may be of the very best quality when opened, but the rich flavour soon goes after cutting. It is best, then, to grow Melons that will be nearly all eaten at a single meal, so that the flesh is enjoyed at its best. Very large Strawberries are seldom so good in flavour as smaller ones, although there are exceptions, and a true opinion can only be formed by an intimate knowledge of varieties and their peculiarities.

As to the conditions necessary to bring flavour into fruits, anything that maintains the tree or plant in perfect health will usually be the proper method. Unnatural drying off or sudden alterations in the temperature and atmospheric conditions caused by throwing fruit houses widely open, are wrong in principle and bad in effect. There may be occasions on which it is necessary to effect changes that are not altogether in favour of the plant, but they are few, and as a rule what is good for the plant or tree is good also for the fruit.—H. RICHARDS.

DEATH OF MR. T. FRANCIS RIVERS.

It must needs be that our horticultural world, like the palace and the cottage, shall from moon to moon pay its due tribute to Father Time. Already that last and most kindly physician has in this year removed from our midst at least three whose names carry with them a special measure of respect, and now the great pruner of mankind has again entered our garden to take his toll. Whose is this name? Well, it is the honoured name of Rivers. Upon the 17th day of August there passed away at Sawbridgeworth Thomas Francis Rivers at the age of sixty-eight years.

Twenty-two years ago this paper had to record the decease of the late Mr. Francis Rivers' father, known in horticulture as Thomas Rivers. The lives and the works of these two Rivers cover nearly the whole of the Victorian era. This age not only interests ourselves from the fact that we have helped to make it, but inasmuch as its exploits in almost every department of knowledge have never been excelled in history, we feel a personal pride in having belonged to it. Moreover, as horticulturists it is certain posterity will envy us the good fortune of being contemporaries and the associates of those who have during the last fifty years laboured in raising English gardening to a height inconceivable to our forefathers, and unsurpassed among the nations. Years hence, when the lusty progeny of Britannia shall have appropriated and developed our present knowledge of fruits and fruit culture to a point beyond our imagining, they will still fail to realise how much they are indebted to the observations made and the successes attained in the quiet village of Sawbridgeworth during the last seventy years of this century.

Seventy years, however, does not represent the duration of the influence of the Rivers family in that neighbourhood. It is a hundred and eighty years since the original Sawbridgeworth Rivers migrated thither from Berkshire. But those were not the days of expansion, population for nearly a century but languidly increased, and railways had not yet opened up distant and easy channels of trade. Hence the business of the earlier Rivers took no great development, their efforts being confined merely to the supplying of the modest demands which the primitive notions of the neighbourhood made upon their establishments.

With the French Revolution, however, came the European awakening, penetrating even to such placid Arcadian English villages as Sawbridgeworth, and just as the Revolutionary wars were blending into the despotism of Napoleon Bonaparte—in 1798—Thomas Rivers, the father of the subject of our notice, was born. Brought up amid a generation quickening with the new impulses communicated to it by the new science and the new politics, the prophet of modern fruit culture was gradually moulded to his work. Then as the opportunity begotten of growing wealth and growing population came (and, curiously, almost exactly with the introduction of railways in 1827), Thomas Rivers entered upon his mission as a public teacher. It would be deeply interesting to recount here the writings and the experiments of the elder Rivers, as described in this Journal twenty-two years ago by one who was his boon companion in their joint specialty. To the enthusiast the recital is absolutely fascinating, but our business is with the son.

Francis Rivers was born upon the eve of the great Reform Bill in 1831, and spent his boyhood amid the din of free trade and protection, when Cobden was labouring to free English commerce from the trammels thrown around it by an injurious system. Country life

was still primitive, and, as judged by our present luxurious standards, rough and dull. A prize fight then was the equivalent of what an international cricket match is now, and the scene of some Homeric battle was not infrequently the neighbourhood of Sawbridgeworth. Like the large and liberal minded man he was, Mr. Thomas Rivers sent his son to finish his education in France, at Dunkirk and Boulogne. It was in this way that Mr. Francis Rivers acquired that command of literary and colloquial French which so greatly facilitated his intercourse with the horticulturists and societies of Belgium and France, whether presiding at meetings or conferring privately with them as individuals. It likewise extended the field of his knowledge, for with greater literary instincts and tastes than his father, he inherited the same love of excursive reading. From his father also he acquired, merely by contact, an insight into the new methods of evolution growing up around, and with increasing age and constant observation, learned at length to draw useful deductions for himself regarding the operations of Nature.

Working thus in the laboratory prepared by his predecessor it was only natural that Mr. Rivers should become unconsciously impregnated with the *genius loci*, and having graduated by virtue of long experience in so valuable a school, should ultimately assume the cares of office as his father's strength declined. Long previously to this, however, his influence had made itself felt, so that when Mr. Thomas Rivers came to depart in 1877, no perceptible alteration in the traditions of the house resulted from the change. It is true the tendencies were less eclectic. The elder Rivers, beginning with the Rose, worshipped at its shrine for years; and then, with characteristic energy, plunged with equal ardour, and equal success, into the cultus of Apples, Pears, Peaches, and other stone fruits. Mr. Francis Rivers confined his efforts rather to the elaboration of new varieties of the Nectarine, the Plum, and the Green Gage. Of his achievements in these departments it seems almost superfluous to speak, seeing that the results are still so fresh in the memories of those who have attended the great exhibitions of the last fifteen years.

It is almost impossible to say in what direction Mr. Rivers' best efforts have been directed. That he has for all practical purposes revolutionised the Nectarine, added to the length of the season in which ripe Peaches may be had,

raised and introduced Pears, Apples, Plums, and Cherries, and was the raiser of the now celebrated Nonesuch dwarfing stock for Apples is well known. In these respects alone his work was monumental. He also did an immense amount of good and encouraged the spread of fruit culture by the aid of practical essays on all phases of the subject, of which he was a master, these being read at the leading gardeners' meetings in the country, and further distributed by the aid of the gardening press.

Mr. Rivers' knowledge of fruits was profound, and the numbers of new varieties that have emanated from Sawbridgeworth since his active leadership of the firm were extraordinary. He commenced seed sowing when a boy, and during his career tested the fruits of hundreds of his seedlings, retaining only those which displayed distinct characteristics. Of Nectarines alone he placed two dozen varieties in commerce. Lord Napier was one of the first to become a general favourite, while the brilliant Early Rivers made an even quicker advance, and the precocious Cardinal is rapidly finding its way into gardens at home and abroad. There are also undoubtedly fine varieties in the "Poets' series"—Chaucer, Dryden, Milton, Newton and Spenser. Only a week or two since we



FIG. 34.—MR. T. FRANCIS RIVERS.

observed a silver medal awarded to a dish of Dryden from the garden of Mr. A. H. Smer, as the most meritorious exhibit in a show of considerable dimensions. Pineapple is one of the best known as a valuable successor to Pitmaston Orange, and Humboldt is larger than Pineapple, while most cultivators know that Victoria and Stanwick Elruge are among the best and latest of Nectarines.

Mr. Rivers raised an equal number of Peaches, and, as has been said, materially extended the season of this delicious fruit by the distinctly early varieties—Early Louise, Early Rivers, Early Beatrice, and Early Alfred, all producing, if small, yet excellent Peaches. He also introduced the first American varieties, Alexander, Early Amsden, and Waterloo, but thought the first named was sufficient of the similar trio. Of the later Sawbridgeworth seedlings such established varieties as Goshawk, Sea Eagle, and Gladstone, among others, will carry their raiser's name into futurity.

Plums also came within the scope of his genius, and as a result we have such varieties as Grand Duke, Monarch, The Czar, Early Transparent, Golden Transparent, and Late Transparent, Early Rivers, Sultan, and Primate. Already many of the Sawbridgeworth seedlings have become standard varieties, and shown beyond question that they have come to stay.

Among the best known of Mr. Rivers' Pears are Fertility—not a high-class fruit, but a recognised profitable market variety—Beacon, Dr. Hogg, Conference, Magistrate, and Princess, most or all of which have been honoured by the Fruit Committee of the Royal Horticultural Society. Less numerous are the Apples which were raised in the famous Herts nursery, yet there are some half-dozen of them, three at least having been honoured by the R.H.S., namely, Thomas Rivers (or Rivers' Codlin), St. Martin's, and Prince Edward; while one Cherry is worthy of the name it bears—the valuable Early Rivers, though its author introduced other fine varieties from the Continent.

It can be said of Mr. Francis Rivers that he had faith in his own fruits. He often had them in bearing for years, and made extensive plantations of some of them before the world knew of their existence, reaping, as he deserved, advantage by his judgment. Mr. Rivers though he preserved a fine collection of Grapes, including many little grown varieties, we do not remember that he was the raiser of any; but it was through his agency that the popular Gros Colman, and, later, Gros Maroc, were placed in commerce, and became, especially the first named, extensively cultivated.

The deceased gentleman is the second Victoria Medallist of Honour to pass away. He was Chairman of the British Fruit Growers' Association, and was one of the prime movers in the celebrated Exhibition of British Grown Fruit held in the Guildhall in 1890 under the auspices of the Worshipful Company of Fruiterers, and was placed on the Livery of that Company in recognition of his services.

At intervals Mr. Rivers put forth new and revised editions of "The Miniature Fruit Garden" and "The Orchard House," incorporating therein the latest information gleaned in the course of his experiments at Sawbridgeworth. When in 1888 the British Fruit Growers' Association came into being, Mr. Rivers was elected one of the vice-presidents. The speeches he has made and the papers he has read at its meetings, and also at those of the Fruit Conferences held at the Crystal Palace and in other parts of the British Isles, have become the subject of much Press commentary, not even excepting the "Times." It is to be regretted that his accustomed place at these gatherings will know him no more. With him the accumulations of a long, varied, and unique experience vanish from the world, and English horticulture loses one of its worthiest representatives. Last Monday afternoon, in the parish churchyard of the picturesque village of Sawbridgeworth, Francis Rivers was laid to rest beside his forefathers. In the warm broken sunlight of a perfect summer day, amid troops of sorrowing friends and mourning dependants, were consigned to earth the remains of a man of gentle heart and polished mind, who was known to many, understood by some, and respected by all. Worthy son and worthy sire! What more appropriate epitaph can we find for them than this: "By their fruits ye shall know them."

SPARTIUM JUNCEUM.—The Spanish Broom is a fine plant for the front of shrubberies or any place where a touch of bright colour is needed. A group of it at a little distance in full flower has a very fine appearance, the full clear yellow of the blossoms being very unusual, excepting in the Brooms. The plant is very free growing, making long Willow-like shoots that flower most abundantly. It thrives well on almost any description of soil, and is easily propagated by cuttings of half-ripened wood inserted in autumn or by seeds.—H.



RECENT WEATHER IN LONDON.—Though the amount of rain that has fallen in London has been very small, the cooler atmosphere makes things much more bearable. The sun at midday is still powerful, but nights and mornings are decidedly cool. At the time of going to press on Wednesday it was bright and warm.

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, August 29th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. At three o'clock a paper on "The Soil Considered as Plant Food, and Its Exhaustion," by Monsieur Georges Truffaut, will be read.

— **AILANTHUS GLANDULOSA.**—In France it has been found that the Ailanthus, which multiplies itself so rapidly by suckers from the roots, is well adapted to rocky and sterile hill and mountain sides where other vegetation will not exist. In such locations it sends out its roots between the rocks, and from these spring new, young plants, clothing such hillsides with forest growth. The wood of the Ailanthus is soft and light, and of little value hitherto known, either for fuel or manufacturing purposes, but it has been found that it serves admirably for broom handles, and is proving so useful for this purpose that the cultivation of the tree is being extended even beyond the limits of poor lands.

— **KEW APPOINTMENTS.**—Mr. Isaac Henry Burkill, M.A., late temporary assistant in the Herbarium of the Royal Gardens, has been appointed principal assistant in the director's office. Mr. Burkill was a scholar of Gonville and Caius College, Cambridge, and assistant Curator of the University Herbarium. He received the Walsingham medal in 1894. Mr. Henry Harold Welch Pearson has been appointed by the Secretary of State for India in Council, assistant (for India) in the Herbarium of the Royal Gardens, in succession to Dr. Stapf, promoted to be a principal assistant. Mr. Pearson was assistant curator of the University Herbarium, Cambridge, Frank Smart student, Gonville and Caius College, and, as Wort's travelling student, visited Ceylon in 1897. Mr. Alec Arthur, a member of the gardening staff of the Royal Gardens, has been appointed by the Municipal Council of Shanghai, Superintendent of Parks and Recreation Grounds in that town. Mr. John Gossweiler, recently a member of the gardening staff of the Royal Gardens, has been engaged by the Portuguese Government for the curatorship of a botanic station in Loanda, Angola.—("Kew Bulletin.")

— **SCHEDULE WORDING.**—In making schedules for local, and especially for cottagers' shows, so many persons employ words not only very superfluous, but are often misleading, because voluminous. It is so much better to use the simplest terms, and as few as possible. Thus I find the word "best" commonly used to every class. That is a term that need never be employed, because it is so well understood that the object of judging exhibits is to find not the best one, but the best several. "Bunch," again, is often needlessly used, as is also the term "dish." Thus, the "best bunch of Carrots, six to form a bunch," appears in a country schedule, when all the words needed are, "six Carrots," specifying whether long or short, if there be different Carrot classes. "Best dish of Broad Beans, twelve pods in number," is peculiarly superfluous language, when twelve pods of Broad Beans would be ample. Potatoes continue to be divided into white and red, kidney and round. It is better to call them white and coloured, as some judges would refuse to admit a purple Potato to be a red one. The distinction round and kidney should be abolished, as the dividing line does not exist. But in one case I met with classes for round, for kidney shaped, and for intermediate shaped varieties. I think it is so much better to have classes for white, and for coloured, as it is not possible with these to show the same variety in both classes, and then have single and double dish classes in each section. The same superfluous language is frequently found in classes for fruits and flowers, tender vegetables. "Best dish of Apples (cooking), five to form a dish," is very cumbersome for a class which should be simply, five Apples (cooking), or five Apples (dessert). It is not merely that such verbosity unduly hampers a schedule, but it also renders printing more costly. In spite of all that has been written from time to time on the subject a real reform of schedule construction and phrasing seems much to be needed still.

—WANDERER.

— **RATE OF GROWTH OF FIRS.**—The rate of growth in the case of trees varies not a little, and is very largely influenced both by the climate and the district in which they are grown, and also by the nature and aspect of the land. It has been found that on an average Larch grows at the rate of from 15 to 18 feet in about a dozen years; Spruce Fir about half that height. As against this, however, we have known Larch trees, grown in favourable situations, to have reached a height of from 25 to 30 feet at the age of fifteen years. The land in this case, however, was rich and fairly sheltered.—("Irish Farmers' Gazette.")

— **PEACH GOSHAWK.**—Your correspondent, "Sexagenarian," asks on page 104, "Who has tried Goshawk (Peach) on the open wall?" About twenty years ago I had two trees from Messrs. Rivers & Son, which were planted against a wall facing south, and they bore well until the wall was removed, which did away with those and other Peach trees. I then had two trees of this variety from Messrs. Smith & Son, Worcester, and they are bearing fairly well, and my employers say they are of good flavour. Like the other Peach trees they suffer from the winds, which blister the leaves; but if I were confined to only one variety that one would certainly be Goshawk. Why was the question asked—it is supposed to be tender?—SOMERSET.

— **CARNATIONS AT HORRINGER.**—At the village show at Horringer, Suffolk, Mr. F. Carter, an amateur grower, set up some really magnificent flowers of Carnations. His Mr. Nigel, a yellow ground with very deep flaking, was a magnificent flower, and the somewhat ruffy Mrs. Robert Sydenham he also staged, in beautiful condition. The pure white Mrs. Erie Hambro and the pretty yellow Gift were noted as exceptionally fine; in fact, any of the flowers shown would have stood high in the very best competition. A look through Mr. Carter's pretty garden showed that all other flowers he takes in hand are equally well grown, and I especially noticed some of the newer single Gaillardias that were most beautifully grown and very fine varieties.—H. R. R.

— **RICINUS AND SCABIOUS.**—In a large circular bed we have planted Castor-oil Plants at a couple of yards apart all over the bed, and between these white Scabious plants were somewhat thickly planted. The bronzy leaves of the Ricinus and the white flowers of the Scabious do not sound like anything elaborate, but it is very striking and pretty, for the Ricinus is a noble-looking plant when grown in the full sun and in a good rich soil. The Scabious flowers are only peeping out here and there, of course, for the large leaves of the Castor-oil Plant keep them from unduly pressing their claims to notice. I can recommend this as a simple but effective way of treating a large bed.—R.

— **PRIZES AND WINS.**—The other day at a great metropolitan show I noted the constant recurrence of the same name, one or two men getting all the best prizes. One winner, indeed, told me that he had thirty-four prizes. That is not quite the sort of thing one wishes to see at flower shows, as clean sweeps of this nature are so disheartening to the mass of competitors. A very different result was seen the other day at Cranleigh, where in bona fide cottagers' classes I found in looking over the names of the winners of the first prizes, that of thirty-three prizes there were seventeen winners, and of thirty-six second prizes, a few firsts not being awarded, there were twenty-three winners. No one competitor seems to have taken of firsts and seconds more than six prizes. Then I found, putting the firsts and seconds together—a total of sixty-nine—that these were shared amongst no less than thirty-two exhibitors. Nothing could well be more satisfactory, as probably every exhibitor in the classes got something.—OBSERVER.

— **EXHIBITING FLOWERS—GYPSOPHILA.**—With reference to the note from "Florist," which appears in the Journal for August 17th, page 144, on the use of Gypsophila paniculata with herbaceous flowers, I should like to ask if an exhibitor ought to be disqualified for placing it loosely on the table between the vases holding the twelve bunches. I have frequently used it in that way, but have been told that I am using a thirteenth variety to decorate the twelve, and am liable to be objected to. I agree with "Florist" in the special case he mentions on disqualifying the exhibitor for adding Gypsophila to the bunches.—R. W. [The only safe way to avoid disqualification is to exhibit in exact accordance with the terms of the schedule, neither adding nor withholding anything. Twelve bunches of cut flowers should need no such "decoration" as suggested. The Judges might ignore the addition or disqualify the exhibit, and in any case we cannot imagine their thinking more highly of the flowers in competition because of the dressing.]

— **GOLD MEDAL DAHLIAS AT LEICESTER.**—I notice in your report of the Leicester Show a statement that I was awarded a bronze medal for Dahlias. I should like to say that I was the only exhibitor at the Show who took a gold medal for Dahlias. I should be pleased if you could make the necessary correction in your next issue.—S. MORTIMER. [We readily publish the note of our correspondent, and congratulate him on his success.]

— **ST. JAMES, WEST MALVERN.**—I have read with great regret the announcement that those beautiful gardens known as St. James's, West Malvern are to be offered for sale. That is consequent upon the recent death of the late owner, Lady Howard de Walden, who, aided by her able gardener, Mr. C. Fielder, formed at St. James's, which is a huge slope on the western side of the great Malvern hills, one of the most novel, interesting, and beautiful gardens in the kingdom. The late owner was an enthusiastic gardener, and, being very wealthy, obtained everything suitable for her purpose in planting these remarkable gardens, and the collection of various hardy stock is probably unrivalled in the country. The gardens consist of one great series of slopes or banks, with grass or gravel walks on the level; within the lower grounds charming ponds containing beautiful aquatics. Bamboos have been abundantly planted. It will be indeed a misfortune if these lovely gardens be broken up or handed over to the tender mercies of the builder.—A. D.

— **MOSELEYA.**—In a recent number of Hooker's "Icones Plantarum," a very rare plant, which was originally described as *Hornemannia pinnata*, Benth., and subsequently reduced by the same botanist to the genus *Sibthorpia*, is figured (t. 2592) under the name of *Moseleya pinnata*, Hemsl. Excellent specimens received from China seemed to warrant restoring this interesting plant to generic rank, and as the name *Hornemannia* was already in use, the genus was dedicated to the memory of the late Professor H. N. Moseley. Shortly after this publication, Mr. N. E. Brown recognised in it the *Ellisiophyllum reptans*, Maxim., founded on Japanese specimens in 1871, and described by the author as "inter Polemoniaceae et Hydrophyllaceae." So few specimens existed in herbaria that nobody appears to have identified Maximowicz's Japanese plant with that described by Benth. from India, though the late Dr. Baillon (Bull. Soc. Linn. Par., 189), p. 817) referred it to the *Scrophulariaceae*, and the vicinity of *Littorella*. As there is no doubt of the identity, *Ellisiophyllum* is the name to retain, and it is to be hoped that the name of Moseley may yet be connected with a plant previously undescribed.—("Kew Bulletin.")

— **FLOWER SHOW MARQUEES BLOWN DOWN.**—We gather from the "Aberdeen Express" that after a few weeks of calm and mild weather a sudden change took place in the north of Scotland on the evening of the 15th inst. The gale played the greatest havoc in Duthie Park, Aberdeen, where the annual exhibition of the Royal Horticultural Society was being arranged. Three spacious marquees had been erected for the exhibits, one being set apart for cut flowers and fruit, another for pot plants, and another for vegetables. About half-past eight the wind increased to such an extent that those engaged inside became alarmed for their safety, and a general exodus was the result. Unfortunately, their fears were only too well grounded. A sudden gust of wind snapped the centre poles of the cut flower and fruit tent, and, in a twinkling, the canvas was flapping about in a state of wild disorder, the tables with the fruit being swept bare. The marquee for pot plants was the next to go, the canvas collapsing first at one end and then at the other. To add to the general chaos, clouds of dust from the walks were whirled about obscuring the vision, and tending greatly to the discomfort of the bystanders. Valuable Palms and other exotic plants were tumbled indiscriminately about to the despair of many exhibitors, some of whom had come from a distance. But the spectators were practically powerless to avert further disaster, and, in quick succession, the exhibition tents of Messrs. Wm. Smith & Sons and Messrs. James Cocker & Sons were reduced to a state of wreckage, while the Secretary's tent was soon a "thing of shreds and patches." An exciting scene was witnessed in connection with the fall of the plant marquee. The lamps inside had been lighted, and when the crash came the canvas caught fire at one end. A number of people were below the fallen tent, and it was feared that the flames, fanned by the furious wind, would spread so rapidly that it might be impossible for every one to escape in safety. No sooner was the situation apprehended, however, than many willing workers assisted in rolling up the canvas, and thus smothering the flames, with the result that the people below managed to crawl out uninjured. The loss to exhibitors was of necessity considerable, but thanks to their earnestness and determination a good show is said to have been held the next day.

— "THE SOUTH COAST QUARTERLY."—We have received the second number of this publication, which we suspect is the first quarterly magazine that has been issued under the auspices of a railway company in England. That it is edited by Mr. Percy Lindley is sufficient guarantee of its literary quality, while the paper, letterpress, and illustrations are such as would satisfy the most fastidious. Considering the beauty of the scenery in the districts that are served by the London, Brighton, and South Coast Railway Company, readers may look forward to a picture gallery of diversified character and never failing charm. The price of each issue is only twopence.

— DIANELLA ASPERA.—When well berried this Tasmanian plant forms a very pretty picture, its bright coloured fruits standing out conspicuously among other plants. When fully grown it makes a bush about 4 feet high and 3 feet in diameter, with an abundance of stems clothed with narrow leaves 8 inches long. The flowers are pale blue, and produced in upright racemes from near the apex of the shoots, usually several racemes being borne by each growth. They are produced in June, and are followed by bright blue berries, the size of a good sized garden pea, which are at their best for several weeks in August and September. It can be grown well either in pots or borders, and requires a mixture of peat and loam with plenty of sand.—K.

— OLEARIA HAASTI.—The New Zealand flora is not very rich in really hardy shrubs, most of them being too tender to stand more than 4° or 5° of frost. *Olearia Haasti* is the hardiest, as it will stand any ordinary winter with impunity. It is a low-growing evergreen about 4 or 5 feet in height, and is a handsome shrub suitable either for a bed or a single plant. It requires a sunny position, and a light and rather poor soil. The leaves are about an inch long, thick and leathery, bright shining green above, and clothed on the under surface with a thick, greyish-brown felt. The pure white flowers open in August, and are borne in axillary clusters on stems 2 or 3 inches long, and are sweetly scented. It is a first-rate evergreen for the vicinity of towns or smoky districts, as it is not affected by smoke and fog as many evergreens are. Seeds are ripened in abundance, and readily germinate. Cuttings of half-ripened wood will also root readily in a close case, and soon make good plants.—C.

— SAMBUCUS GLAUCA.—This North American Elder is worthy of a place in the shrubbery, both for its freedom of growth and the beauty of its flowers and fruits. It requires a cool and fairly moist situation to properly develop itself, though it should on no account be shaded. The leaves are pinnate, usually consisting of nine leaflets, deep green above, and glaucous on the under side. The margins are serrated. The shoots of the current year terminate in a dense, nearly flat, head of pure white flowers, which open in July, and are succeeded by purplish-black fruits covered with a thick light-blue bloom. On well-grown plants the heads of flowers will measure from 12 to 18 inches across. The young growths ought to be shortened to half their length in the winter, and an occasional top-dressing will prove beneficial. It is easily propagated by seeds or cuttings; the latter should be taken in summer, and put in a close frame to root, or pieces of stout wood about a foot long can be rooted in the open ground in a shady place.—C.

METHEOLOGICAL OBSERVATIONS AT CHRISWICK.
—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1899. August.										
Sunday 13	E. N. E.	deg. 69.7	deg. 60.0	deg. 74.3	deg. 58.2	ina.	deg. 65.8	deg. 64.5	deg. 61.8	deg. 48.4
Monday 14	E. N. E.	64.9	61.1	75.1	57.1	—	66.1	64.5	61.8	50.6
Tuesday 15	E. N. E.	73.5	67.2	88.2	61.0	—	66.9	64.5	61.8	53.9
Wednesday 16	N. N. E.	66.5	59.9	76.8	57.1	—	67.5	64.9	61.8	50.9
Thursday 17	W. N. W.	65.8	57.4	73.9	55.2	—	67.5	65.2	61.9	46.4
Friday 18	W. N. W.	67.6	59.7	70.6	54.1	—	68.1	65.3	61.9	47.0
Saturday 19	W. N. W.	65.6	62.5	73.9	61.6	—	67.6	65.3	61.9	57.9
MEANS ..		67.2	61.1	76.1	57.0	Total 0.00	67.1	64.9	61.8	50.7

The weather continues very hot and dry, the temperature (88.2°) on the 15th inst. being the highest recorded this year, the next highest being 82.7° on June 5th. No rain has fallen since the 6th inst.

— HERBACEOUS SPIRÆAS.—These are as useful and as desirable as those in the shrubby class. *S. aruncus* is the showiest, being the tallest and most vigorous grower, and bearing large effective heads of creamy white flowers, that appear in June. *S. astilboides* var. *floribunda* is perhaps the next in value, being an improvement on *S. astilboides*. *S. palmata alba* and *S. palmata rubra* are both good; so are *S. filipendula*, creamy white, and *S. lobata*, pink. *S. japonica*, creamy, requires shade to produce the best results; given the right conditions, it blooms abundantly at the same time as its taller relative, *S. aruncus*.

— CYPHOMANDRA FRAGRANS.—For three or four months during late summer and early autumn this plant can be depended on to make a good show of flowers, while earlier in the year its handsome glossy foliage makes it a conspicuous object. Being of a robust habit it is more fitted for planting in a border in a cool greenhouse or conservatory than for pot culture, though it can be grown and flowered well in the latter manner. It is a native of Brazil, and forms a good sized spreading bush or small tree, with deep green, ovate, glabrous leaves, 8 or 9 inches long. The flowers are produced in loose pendulous racemes from the branch divisions all over the plant. When young they are bright purple in colour, and very fragrant; as they age they become yellow, suffused with purple. It grows well in fairly heavy loam, and prefers plenty of sun, though it can be grown well in a shaded situation. At the end of December the branches should be cut back, if it is not wished to grow the plant larger, to within two eyes of the old wood. About March it will break strongly, and given plenty of water will take care of itself practically for the summer. It is a good plan to let the plant grow to a height of 6 feet or so before allowing it to branch; by this means the flowers are seen to better advantage.—W. D.

HELICONIA SANDERI.

[We readily publish the following amusing critique, and our artist's reply.]

Your artist must have been under the influence of a heavy lunch when he made the drawing published by you as *Heliconia Sanderi* (page 125, August 10th). To me it suggests a *Dieffenbachia* trying to be a *Richardia*, with a suspicion of the variegation of the *Heliconia* in the leaves; and as these three were among the new plants shown by Messrs. Sander and Co. at the Temple in May, your artist appears to have mixed them. *H. Sanderi* itself is somewhat of an enigma, for it is not a *Heliconia*, but rather one of several recent introductions from the East, which probably constitute a new genus, but which cannot be dealt with until their flowers are known. They are *H. sureo-striata*, *H. metallica*, *H. spectabilis*, *H. illustris*, and *H. Sanderi*. Should any reader of the *Journal* succeed in flowering any one of these plants he will do a useful service, both botanically and horticulturally, by forwarding the flowers to Kew. They are all decorative stove plants, *H. Sanderi* being one of the most distinct and ornamental.—W. W.

REPLY.

As the *Heliconia* was shown closely crowded in a glass box, and this in a dark tent, it is just possible that some little detail may have escaped attention, though a later comparison with photographs of the plant exhibits no material difference, except that the variegation is more clearly defined in the engraving. There is much resemblance to a *Richardia* in the unfolding leaf, still the leaves will unfold in this way until your correspondent trains them up in the way they should go. With regard to his polite suggestion as to the cause of my views differing from his own, it is, of course, natural for "W. W." to judge of the habits of others by the standard of self—most men do—but it is always wise to display such standards in print?—G. S.

[We are obliged to "W. W." for the information he gives, and shall be pleased if any of our readers who may flower the plant will send specimens to Kew as suggested. Alluding to his facetious remarks, we are inclined to think our jocund critic is entitled to some form of recognition as the author of a new idea. "Composition" photographs—a blend of two or three individual celebrities shown as one—are common enough, but a composition sketch, in which the characteristics of three different plants are embodied in one, is, so far as we know, a distinctly original suggestion.

What form this recognition should take is matter for consideration. Artists are admittedly clever and resourceful, and as our plant and flower delineator is regarded by such an authority as "W. W." as able to accomplish the feat indicated, we see no reason to assume that he has reached the limit of his inventive power and pictorial skill. On the contrary, we should not be surprised to find one of these days a composite representation of one of our friend's new plants, its parents, and himself. We should then have the fruition of an idea in the form of a blend of at least three desirable features—completeness, novelty, and beauty.

Let us say that we agree with what we once heard as a concise estimate (and we are all summed up in turn by somebody): "W. W." is a fine fellow, and we are all proud of him."

SHREWSBURY FLORAL FÊTE.

BY WIRE.—AUGUST 23RD.

IN the exhibition that opens to-day (Wednesday) and continues over Thursday, the Shrewsbury authorities outdo themselves in the extent, variety, and magnificence of the display. On no previous occasion has the Society achieved such a remarkable success—at least from a horticultural point of view—and it is almost beyond the shadow of a doubt that the financial returns will be equally a matter for congratulation. As each successive year brings increased excellence at these world-famed gatherings, visitors are constrained to ask what the ultimate end will be. Let us hope that when, if ever, the stage is reached which permits of no further advance, the standard may be maintained to continue the good work in horticultural education that was commenced at Shrewsbury a quarter of a century ago.

When the groups are so varied and so excellent, the specimen plants so magnificent, the cut flowers so diversified and rich, the fruit so extensive and in such perfect condition, and the vegetables so handsome and clean, it is well-nigh impossible to say precisely which section is the best. However, after the closest inspection, and the most careful consideration, we must give pride of place to the group and plant classes, though the Grapes are almost equally complete and excellent. There is one thing that has to be reckoned with in a floral fête, and that is weather, which may make or mar a record attendance. To-day it is pleasant to say the weather is perfect and visitors are coming in thousands. It is obviously beyond our power to provide a full report, and we therefore give the results in thirteen of the principal classes.

There are two classes for groups that stand on a level as regards importance, and both of them always bring forth the best products of some of our most skilful artists in grouping. One is for miscellaneous plants in or out of bloom, and the other is to be exclusively composed of ornamental foliage plants. In each case the allotted space is 300 square feet, and an important point lies in artistic arrangement. In the former the successful competitors are Messrs. P. Blair, Trentham; J. Cypher, Cheltenham; and R. Finch, Coventry; while in the latter Mr. J. Cypher secures the premier position, and is followed by Messrs. C. J. Mee, Nottingham, and R. Artindale & Son, Sheffield. The sum of 100 guineas is set aside for these two classes.

Two prizes only are allocated to the class for twenty stove or greenhouse plants, of which not less than twelve must be in bloom, these being of the respective value of £25 and £15. Mr. J. Cypher appropriates the leading position, with Mr. B. Cromwell, Cleveley, Liverpool, in the second place. Messrs. J. Cypher and W. Lambert, Oswestry, in the order here given take the awards in the class for thirty stove or greenhouse plants, in pots not exceeding 10 inches in diameter (Orchids excluded), and, as in the preceding case, not less than twelve had to be in bloom. Needless to say there are some superb examples of culture in both these classes.

Salopians alone were permitted to compete in the following class, and well they uphold the credit of their county. For a group of miscellaneous plants, in or out of bloom, to occupy a space of 150 square feet, the prizes are taken by Messrs. Roberts, gardener to Miss Wright, Oswestry; Tugwood, Leighton Hall; and Grimmex, Berwick.

A class at Shrewsbury that never fails to attract attention is that for a display of bouquets and baskets of flowers, for which a space of 10 feet by 5 feet is allowed. Referring to this, the Committee says in the schedule, "In class 24 tasteful staging will be considered by the Judges in addition to the flowers exhibited." Thus it is that there are always some peculiarly artistic arrangements observable. The premier position is secured by Messrs. M. Jenkinson & Sons, Newcastle, Staffs; Messrs. Jones & Son are second. For two bouquets the prizewinners are Messrs. Jones & Son, W. Pope & Son, Birmingham, and R. Artindale and Son.

The honour of securing the first prize of £26 and a gold medal in the greatest class for Grapes that has ever been scheduled falls to Mr. T. Lunt, Kier House, Dunblane, who scored 96 points. He is a justifiably proud man this day. Considering that the class has been the one topic of keenest interest in the horticultural world, it is perhaps superfluous to say that six varieties were essential, and two bunches of each. The judging was done entirely by points on a basis stated in the schedule. Mr. A. Kirk, Norwood, Alloa, with 89½ points is the second prizewinner, and Mr. J. H. Goodacre, Elvaston, with 79½ points [the third; Mr. J. Campbell, gardener to J. Newton, Esq., Derby, with 76 points was fourth; Mr. J. Langley, gardener to the Rev. B. Owen, with 69 points fifth; and Mr. J. Bannerman, gardener to Lord Bagot, with 63 points sixth. Needless to add, there are many magnificent bunches, but of these more next week.

A splendid class, from an educational point of view, is that for a des-

sert table decorated with plants in pots, flowers (Orchids excluded), and foliage. Not only does it call forth the most skilful culture, but also artistic taste in so staging the produce as to make the most attractive exhibit. Point judging is here again resorted to, and this time it told in favour of Mr. J. H. Goodacre, who thus takes premier position; Mr. J. McIndoe, Hutton Hall, Guisborough, is second; and Mr. G. Mullins, Eastnor Castle, third.

Two very important classes are for twelve dishes of fruit, distinct, and for nine dishes distinct, respectively, of which the former is open to all comers, while the latter is limited to growers within the boundaries of the county of Shropshire. In that for twelve dishes Mr. J. H. Goodacre is first, Mr. Mullins second, and Mr. Jones, York House, Malvern, third. In the Salopian class Messrs. J. Langley, Tedsmore Hall, Felton; Roberts, Halstone, Oswestry; and Brummell are in great form, and secure the awards as named.

It may possibly have been thought that the special Grape class would completely overshadow all others, but such was not the case, and some grand bunches are to be seen. In the class for four bunches of black Grapes Mr. A. Kirk stands first, Mr. J. Campbell second, and Mr. Waterhouse, Macclesfield, third; while for a similar number of white Grapes Messrs. J. H. Goodacre, T. Lunt, and J. Lambert, gardener to Lord Harlech, annex the first three prizes.

Next week a complete, detailed report of this remarkable horticultural reunion will be given in these columns.

GOOSEBERRIES AND CURRANTS FOR DESSERT.

EVERY garden possesses its quarter of Gooseberries and Currants, but often their office is to supply the requirements of the kitchen rather than to figure on the sideboard among the fruits for dessert. Yet why should this be? The Gooseberry is generally admitted to be one of the most delicious and wholesome of fruits; and Currants, Red and White, though not so universally appreciated, have a flavour all their own, and when well grown and allowed to hang till late in the season their qualities are their own recommendation. It will perhaps be urged that both these fruits are in their season sent to table for dessert. Quite so, but then are they grown specially for the purpose, and has there been any selection of the most suitable varieties for the purpose, or are they from the same stock as the cook makes her tarts, and when ripe draws her supplies for transforming into preserve? Both Gooseberries and Currants are benefited by good cultivation, and in order to get fine dessert fruit suitable varieties must be chosen.

It does not follow that a Gooseberry to be good must be large, yet there are some sorts that possess both these qualifications, and these are well suited for the purpose I have named. The method of growing cordon Gooseberries to get fine dessert fruits is one that recommends itself. The plants in this form are well adapted for the covering of low walls where there is not sufficient space for other fruit trees to do themselves justice, and trained to stakes or wires along the edges of the walks in the kitchen garden, they simply luxuriate. This system of culture does not demand a great amount of labour, because when once the foundation is laid such timely operations as pinching and tying are readily disposed of. Gooseberries in a young state lend themselves readily to different methods of training, but the perpendicular gridiron shape is that generally adopted.

The most important matter is obtaining good varieties. There is selection enough to suit the taste of the most fastidious, but many sorts lack flavour, and a fruit deficient in this important quality is not likely to meet with favour in the dining room. Red, yellow, white, and green are colours all represented, and among the former Dan's Mistake is large, free-cropping, and of excellent flavour. Companion and Speedwell are both reds worthy of inclusion. Prince Regent is in favour as a dessert variety, as its flavour is very good indeed. Among yellows, of which there is a large number of varieties, Stella is doubtless among the best. Not only is it a heavy cropper, but the flavour is excellent, and the skin thin. Trumpeter deserves honourable mention, and the qualities of both Leader and Leveller are good, though I do not consider them equal to the two previously named. Criterion is also good, but for flavour there is probably none superior to the old yellow rough, which is common in most gardens. White and green sorts are not so largely represented, and of the former Alma and Snowdrop may be recommended. Two good green varieties are Matchless and Telegraph, both of which bear well, and are fairly good in flavour.

The fruit on cordon and other trained Gooseberries is not hidden and shaded by the foliage, as is the case with thick bushes, consequently it is finer, and ripens more efficiently. After the foundation has been laid by laying in the main branches, pruning consists of shortening back the superfluous growth. This may be done in the

summer, so that the fruit is not deprived of the benefits of the sunshine. Good mulchings of farmyard manure are beneficial in the spring, but it is bad practice to disturb the soil to any depth where roots are located. In order to prolong the season of picking a part of the trees may be covered with thin light canvas, which, if carefully adjusted, will act as a safeguard against wasps and birds, both of which will play havoc among the fruit.

Red and White Currants for dessert are not much appreciated till late in the season, but when placed on the table after everyone thinks they are past they receive a hearty welcome. Currants, of course, keep much longer than Gooseberries, and when left to hang on the bushes and properly protected they are gathered late in the autumn. A north wall is a suitable position for growing two fruits for late picking—viz., Currants and Morello Cherries. The latter, when allowed to hang till they are almost black, are appreciated for dessert, and the colour of Red Currants as well as the flavour are improved by keeping. From such a position we have gathered excellent Morellos and Red and White Currants in December in a favourable season, when they prove a welcome addition to the dessert menu.

Currants lend themselves readily for wall culture, as under these conditions the bunches are generally larger and the fruit finer than that grown on bushes. Comet, a comparatively new red variety, possesses the attributes necessary for growing on walls, as the bunches are long, and the berries large and clear. Cherry is a large and attractive Red Currant, and both Ruby Castle and Chiswick Red are suitable for growing for dessert purposes. White Currants are included chiefly for the sake of variety, and the best kinds for this purpose are White Dutch and Versailles. The provision of a varied supply of fruit for dessert is an important matter in many gardens, and the difficulty may be minimised by careful attention to such common fruits as Gooseberries and Currants.—H.



CATTLEYA HARDYANA.

CATTLEYA gigas has been used as a parent in many cases in hybrid Cattleyas raised in our collections, and with good results; but it is very doubtful if anything better than the above mentioned has or will be raised from it. *C. Hardyana* first flowered from an imported plant, but it has since been raised by artificial means, which proves conclusively that *Cattleya gigas* and *Dowiana aurea* are its parents. It is the most gorgeous *Cattleya* in existence, and in its habit of growth resembles *C. gigas*, also partaking after it in size of flower. Considerable variation has been shown in the different plants that have been flowered, but the typical variety, which is still one of the best, has flowers 8 inches across, with sepals and petals of a deep rosy purple. The lip is 3 inches across, the throat and upper portion being veined with rich yellow, while the much-frilled front lobe is magenta crimson. The lip has two eyes peculiar to *C. gigas*, which are in this case of a richer yellow, margined with magenta, the whole flower giving off a powerful perfume. *Cattleya Massiana* is the reverse cross, and both succeed under the condition recommended for *Cattleya gigas* on page 73.

WARSEWICZELLAS.

This small family of Orchids, which are often classed as *Zygopetalums*, is most interesting on account of the beautiful flowers. The plants are often killed, I believe, by too much heat; and having no pseudo-bulbs to support them they must have a supply of water the year round, giving no more than is necessary in the winter months to keep the leaves from shrivelling, as if too much is applied they will rapidly decay. They are best grown in the cool intermediate Cypripedium house, where they will enjoy the atmospheric moisture, and will be found to grow luxuriantly. For a compost use equal portions of peat and moss, which in all cases should be the best procurable; the pots must be well drained. There are some seven or eight species and varieties, all of which are beautiful.

VANDA SANDERIANA.

This would certainly be called a wonderful Orchid if we always saw it in perfection. But how often is it found so? and how often do we hear of its thriving? It is generally classed as a difficult plant, and I at first experienced some trouble, until I decided to alter the conditions entirely under which I was trying to grow it. The plants had been placed in baskets and suspended in the warm house, the compost being live sphagnum moss and crocks. The plants merely existed, and being firmly of the opinion that when a plant ceases to

grow it begins to decay, I adopted different tactics. Instead of putting the plants in baskets I put them in pots, and selected the dampest and shadiest corner in the same house, where everything has gone on satisfactorily. This is proof that so-called difficult Orchids are as easy to grow as the others when we learn the conditions under which they succeed.—J. BARKER, *Hessle*.

DENDROBIUM APHRODITE.

A good deal like *D. Findleyanum* in growth, this pretty *Dendrobium* flowers later in the season, and is useful on this account for keeping up a display at this end of the season. In its habitat it grows in company with *D. albo-sanguineum*, and both require a light sunny position to do well; a thin compost and ample moisture while growing freely. *D. Aphrodite* has creamy white sepals and petals, the lip having two deep coloured blotches, and the flowers occur principally towards the upper portion of the stems, which grow erect.

ONCIDIUM TIGRINUM.

Common as this species is in the usual acceptance of the word, there is no question as to its beauty and elegance. The large bright yellow blossoms occur freely, and are most sweetly scented, the fragrance reminding one of that of Violets. *O. tigrinum* thrives in quite a cool, moist, and shady house, such as suits *Odontoglossum grande*; and for compost a thin layer of equal parts of good peat fibre and sphagnum moss. Although the roots are fairly persistent, *Oncidium tigrinum* always seems to do best when the roots are feeling the pots, so these should not be too large or contain too much material. Water freely all the year round, but especially during active growth.

THE MEXICAN LÆLIAS.

Just now the majority of the plants are growing freely, and some, such as *L. anceps*, are pushing their spikes. See that none of them suffers for want of moisture or light, and any that are quite finished may be placed quite in the full sun, or even out of doors to ripen and consolidate the pseudo-bulbs. *L. albidia* is rather a peculiar species to grow, and what suits it in one place does not always result in success at another. It is more subject to the attacks of the soft white scale than any other kind I know, even newly imported plants being often covered with it.

It is impossible for them to keep healthy with this strain upon them, and just now is a good time to go through the plants and clean any insects off that may be about them. Care is necessary that the buds are not injured that are now forming at the sides of the bulbs, a small pointed stick being useful for getting the insects out. The pretty *L. majalis* is not quite finished, and must not be dried at the roots yet, but after the bulbs are quite matured a slackening of the moisture conduces to a perfect rest, and is more likely to lead to floriferous plants. It is a very beautiful species, and worth any trouble to do it well.—H. R. R.

HERBACEOUS FLOWERS.

A RECENT visit to the gardens of Newton Hall, Chester, for upwards of half a century the residence of Miss Humberston, who, although over eighty years of age, still takes a keen interest in all that pertains to gardening, especially in the occupants of her herbaceous borders was very instructive. In her gardener, Mr. Robert Wakefield, she has a worthy cultivator of these beautiful old-fashioned flowers, and whose fame as a successful exhibitor of them has now spread beyond the local district.

The borders, at the time of the visit referred to, revealed a wealth of bloom and variety of colour which left little to be desired. Here the neatly trimmed and cramped-looking specimens sometimes seen in similar borders are unknown, large massive clumps or groups of each species or variety being evident throughout, all effective and decorative, and with quantities of bloom sufficient to cut and come again for many days.

In my pocket-book the following are noted as being particularly fine—Hybrid Gaillardias, a fine type of *Lobelia cardinalis*, named "Firefly"; *Scabiosa caucasica*, *Coreopsis grandiflora*, *Gypsophila paniculata*, *Bocconia frutescens*, *Achillea ptarmica* fl.-pl., hybrid *Delphiniums*, *Helianthus laetiflorus*, *Echinops nivale*, herbaceous *Phloxes*, *Catananche cœrulea*, a large flowered type of *Chrysanthemum maximum*, *Alströméria aurea*, and *Helianthus rigidus* Miss Mellish, which was just beginning to show colour, but whose stems stood 8 feet high, with large massive leaves, like those of well-grown Jerusalem Artichokes.

We did not inquire of Mr. Wakefield his system of culture, but it was very evident that the methods adopted by him are the best and most suitable, for healthier and better developed specimens we have never seen. It should be added that one of the borders referred to was backed up by a collection of choice varieties of Sweet Pear, arranged in clumps, not in the ordinary stiff row, giving added effect to that which was already beautiful.

One regrettable feature was noticed as we walked away from this interesting old garden, and that was the handiwork of the modern builder, whose bricks and mortar are towering up in the near distance, and thus taking away the rural aspect of a typical old English home.—GEORGE PAXTON.

IN WICKLOW.

High tide, and hundreds are disporting in the briny, where the low sea wall screens the railroad as we run to Bray. Bray, "Brighton of Ireland," does not commend itself to our imagination in that form; rather does it seem the gate to the glorious scenery of Wicklow, whither we are bound this day. Bright bunches of purple Heather peep between big boulders, and pink-flowered Brambles in profusion hang from cliff and cranny of the rock-walled railway banks. Our destination lays among the mountains some seven miles from Bray, a *terra incognita* to us, but a fellow traveller says he has often "footed" it, so with such a precedent, plus frugal inclinations, the tramp commences, in spite of sundry carmen clamorous for prey.

The winding road to Enniskerry is pretty and interesting, the ground rising on the one hand to fall in a deep declivity on the other, up from which comes a murmuring of waters disclosing the half-hidden Dargle river. *Equisetum fluviatilis* grows abundantly on the high bank above, testifying to the presence of water, which, here and there, trickles in tiny streams to join the river below. This great Horse-tail is very handsome, growing, as it does in places, 3 feet high, and ere returning we commission the City friend who is rejuvenating among the mountains to rob the bank for additional interest at home. From Enniskerry it is upwards and onwards with the Dargle still gurgling at hand. On the left lies Kilcorney, the fine country residence of Alfred West, Esq.; on the right stretches the Powerscourt demesne, among several entrances to which that known as "The Golden Gate" is not only conspicuous by its gilded decorations, but for fine clumps of the particular variety of *Phormium tenax* for which Powerscourt is noted. From far up the ascending road comes a signal of recognition, and we wave the answer back thankfully, for rest and refreshment are at hand.

How beautiful upon the mountains are the lights and shadows due to a fickle climate. This is, according to a colloquial designation, a pet day, which, alas! ended pettishly. Since morning black caps covered the highest points: in some instances fleecy mists have descended midway to the valleys, the great Sugarloaf alone standing out rugged and unadorned. Up here grows many a wilding, and purple Foxgloves abound. *Lastrea dilatata* and the Lady Fern, with *Polystichum angulare* share a damp bed with commoner *Lastreas* and *Hartstongues*. "You must see the Waterfall;" but there are gardens to visit hence, we are fain content with a distant view, although the roar of falling waters comes over the intervening mile. This is the Powerscourt waterfall, madly hurrying through a mountain gorge to fall in silver streaks for some 170 feet down almost perpendicular rocks to the valley beneath. Here, but a week since, an all too adventurous visitor lost his life through that British craze for climbing.

Tea, and then for Charleville, near at hand. The principal features of this place, the residence of Lord Monck, are the Conifers, of which Mr. Douglas is justly proud. An avenue of *Deodaras* stretching away to the south-west is very fine, and from one particular point of view appears to be shut off at one end by a lofty eminence, known as the Joyce Mountain. Most of the Conifers here have been raised from seeds saved on the place about thirty years since, and, in some instances, a good deal of sportiveness is noticeable among the types. The Himalayan Spruce, *Abies morinda*, is much in evidence, appearing to be quite at home, and showing markedly distinctive traits of character.

Noble specimens of *Taxodium sempervirens*, with cinnamon red bark, sweep the ground with abnormally protruding lower branches, forming a dense thicket on the grass, and Mr. Douglas points out a *Wellingtonia* planted by him when commencing his duties at Charleville thirty years ago; three decades tell their tale on both the plant and its planter. Near at hand is a tall *Pinus insignis* planted by Mr. Gladstone in 1877. The gardens, in which are several long ranges of glass, are extensive, but of recent years have suffered somewhat from that depression which few large establishments in Ireland have escaped. Some massive and perfectly kept Yew hedges form a happy connecting link with these and the grounds. We should, however, have sought and doubtless found many of those charming old-fashioned things which linger lovingly in old-fashioned gardens had not night fallen apace, and our friend's horse proved restive as the raindrops splashed about his ears. "We're in for it," he said, and we were, rain descending in torrents as our cautious coachman made for Bray station, where only a slight damping of the roads was to be seen.

A week later the same ground was revisited by a different route, and so charming was the inland course that one cannot refrain from mentioning it. This time, independent of trains, we were early a-wheel in the increasing heat of a cloudless morning. Across country to Stepaside, a fine run on a perfect road for several miles leaves the county Dublin behind, and the pass through the Scalp brings one to a long winding descent into Enniskerry. Here cycling practically ceases, for it is uphill, and those cyclists who would return this way probably find walking the better part of valour, here and there a notice board testifying to the dangers of a sharp descent. Thirteen

miles this, the nearest way, and seventeen back by the route of the Rocky Valley, skirting the Sugarloaf mountain, whose summit is aglow with the last rays of the setting sun as the warm hearts of Wicklow and its superb scenery are left behind.—K., Dublin.

PAPYRUS ANTIQUORUM.

Your clever correspondent, "K., Dublin" (page 99), has done well to direct attention to this noble plant. His remarks, however, seem to convey to the mind that to grow it successfully abundance of heat is required, whereas such is not the case. It may interest readers of the *Journal of Horticulture* to know that it can be grown to a very fine specimen in a cool, lofty conservatory or winter garden.

When taking over my present charge, about seven years ago, I found, growing in the conservatory in a large tub, a small but fairly healthy plant of *Papyrus antiquorum*. The following year it was decided to have the whole of the centre large bed planted with Tree Ferns, Palms, and Bamboos. I was anxious to get rid of the rather unsightly tub, so decided as an experiment to plant out the *Papyrus* in the same way as the Palms and Ferns. The soil in the bed consists of loam and peat (equal parts), with plenty of coarse sand. To our surprise it grew much better and stronger when planted out in this manner than when growing in water. Several times since we have had recourse to the spade to considerably reduce its dimensions. It is usually cultivated as an aquatic, but the plant here receives no more water than the other occupants of the bed.

When at Kew recently, I was much interested with the *Papyrus antiquorum* growing in water in the aquatic house. The difference between the one growing in water and abundance of heat, and the other, under the cool treatment I have described, is very great. The stems of the former are very slender, and appear quite unable to carry their heads erect without artificial means of support, and the plant altogether is very much smaller. In the latter case the plant is very strong and vigorous; some of the heads grow to the height of 15 feet, but the majority are about 12 feet, and require no support whatever. Apart from its wonderful history, it is one of the finest decorative plants I am acquainted with, which impart a unique and striking appearance in a lofty conservatory. I hope these few remarks will induce others to grow this plant, as I think the enclosed heads clearly prove that it can be grown successfully in the manner I have described.—C. B. ELLIOTT, Luneville, Torquay.

[We are much obliged to Mr. Elliott for his notes, which will find appreciation from many of our readers. The examples sent are superior in all respects to any we have previously seen.]

In Dr. Hogg's "Vegetable Kingdom" the reference to *Papyrus antiquorum* is so interesting that we reproduce it in full. "The celebrated Egyptian *Papyrus* (*Papyrus antiquorum*), or Egyptian Reed, from which the ancient Egyptians made their paper, still grows in the marshes of Egypt, or in stagnant waters of the Nile. It is also found in Sicily, Syria, and Nubia, and extends even to Senegal. This plant rises, with a triangular stem, to the height of 8 or 10 feet, and surmounted with a large compound umbel of flowers, having long filiform involucre, the lower part clothed with long, hollow, sword-shaped leaves of a brown colour. The root-stocks are long and tortuous, 4 or 5 inches thick; when young they are sweet and nutritious, and are eaten by the inhabitants; they also yield a fecula, which, with the base of the stems roasted, they use as food, and they suck their juice in the same way as they do that of the Sugar-cane. When old the root-stock becomes hard and woody, and was converted into cups, moulds, and other utensils; one use of it was to make covers for binding the leaves of the books, which were made of the stems. The whole plant is used for making boats in Abyssinia, a piece of the *Acacia* tree being put in the bottom to serve as a keel. The leaves and the stem have been twisted into ropes, and with the vertical fibres cloth is made. The ancients made their paper from the pellicle found between the pith and bark of the thick part of the stalk, and the plant being called *babeer* in Syria, this word furnished the appellation *Papyrus*, from which our word paper is derived. The pellicles were peeled from the stems and cut into strips of equal length; the strips were placed side by side on a board, in sufficient number to form a sheet: other strips were placed side by side in an opposite direction over them, so as to make the sheet sufficiently thick and strong; each sheet was pressed, dried in the sun, and polished with a shell or some other substance, and twenty sheets or upwards were glued together to form a roll. The breadth of any roll depended on the length of the strips, and was usually from 10 to 13 fingers broad, and the length depended on the number of the sheets. With the rays of the umbels of the flowers the Egyptians made chaplets for the heads of their gods. Under the arm of a great many of the mummies a small bunch of *Papyrus* is found. It was doubtless of this plant that the 'ark of bulrushes' was made in which Pharaoh's daughter found the infant Moses."]

AN AMATEUR'S GREENHOUSE—No. 3.

It might well be imagined that after detailing the aspect of my greenhouse in the earlier months of the year, and in June, I should have nothing in it worth noticing later. True, nearly all the plants that then made the house so attractive have now been put on one side. The Pelargoniums, show and decorative, which succeeded the bulbs, have been cut down and put out of doors to harden their wood and make growth for another year, and yet I venture to say that there are some plants in my house at present which you would not find in many structures of far greater pretensions. It must be borne in mind that as I have no heat I can only grow such as will thrive in a moderate temperature.

FUCHSIAS.

At this time of the year one naturally depends somewhat on Fuchsias, and some of the best of these I have now in flower. I am obliged to keep them within bounds or they would soon become too large for the house, and probably most of the plants I now have will be thrown on one side after cuttings have been taken from them for next year. Amongst them is the curious little *Fuchsia procumbens* from New Zealand, which we hoped would be a great addition to our rockeries, but unfortunately like so many of the New Zealand plants it is not quite hardy; it might survive such a winter as 1898-9, but then that was exceptional. It may probably be hardy in Devon and Cornwall, but it is certainly not so in the eastern part of the kingdom. It is for the want of sufficient heat that I am unable to grow any *Gloxinias*, a flower of which I am very fond, and that has been so greatly improved of late years.

STREPTOCARPUS.

There is, however, another plant somewhat similar to it in shape which I can manage, that is the *Streptocarpus*. Formerly we used to know only one, *Streptocarpus Rhexi*, but the introduction of other species and the efforts of the hybridiser have given us a number of very pretty and enduring flowers. As yet they are mostly white striped with lavender and shades of that colour, and therefore they lack the brilliancy of the *Gloxinia*, but there is no knowing what the efforts of the hybridiser may do for us. We are now beginning to get rose and red markings in them, which may be indications of something better to come. Of course many nurserymen have been engaged in these efforts, but those which I have come from two sources—Messrs. James Veitch & Sons, who were the first to set the ball rolling, and Messrs. Laing & Sons. The flowers are larger now than they originally were, and the markings are much brighter. These plants during the winter are stored on one of the shelves in the greenhouse, and in the spring are brought down and placed in the back part of the stages first and brought forward as they come into flower.

TUBEROUS-ROOTED BEGONIAS.

There is one flower which must occupy a prominent place in the greenhouse at this season; this is the tuberous-rooted *Begonia*, both single and double. What a change has taken place in this plant! It is not many years since the quantity of named flowers crowded every catalogue, and bulbs were offered at 10s. 6d. and 1 guinea each, but now there are very few who grow them under name, as they seed so readily, and the seedlings grow so quickly, that any number of plants may be raised, and if sown early the tubers will flower the same year. Messrs. J. Laing & Sons and H. Cannell & Sons have run a neck-and-neck race in producing the best novelties, and now I understand a fresh start has been given to them by Mr. T. S. Ware, Ltd., Tottenham. I need hardly say that they are most easily managed, and when they have done flowering, and the tubers are sufficiently dry, they can be laid under the stage, or in any place free from frost, until the time for repotting them comes round. Their varied colours and large flowers make them a great boon at this time of the year. Of that quaintly beautiful flower the *Salpiglossis*, so suggestive of enamel, I have also a few pots on the stage.

LILIUMS.

After all, however, the glory of the house at this time are a few Lilies. One is *L. Alexandræ*; it is, in truth, a pure white *L. auratum*. I do not know whether it will partake of the capriciousness of the type, but my bulb of it is not very strong. *Lilium Lowi* is also a beautiful new Lily, imported by Messrs. Low & Co. from Burmah; it is a bell-shaped flower of good size and substance, with markings in the inside which vary from violet to red. Unfortunately the bell hangs downwards, so that it is difficult to see the inside markings. But the grandest of all Lilliums I have in flower is one I received from Messrs. Wallace & Co. this spring. They received it from a grower in Japan, who seems to hold a stock of it. It appears to be a natural hybrid between *L. auratum* and *L. speciosum*. The flower is simply magnificent; it is as large as *auratum*, being 9 inches across, densely marked and spotted, brownish crimson at first, which fades off a dark chocolate. The plant is about 4 feet high, and appears to possess a vigorous constitution. If my forecast of it be correct it will be

one of the grandest introductions of this beautiful tribe; the perfume, in which that of *auratum* predominates, has still a suspicion of speciosum in it. It is doubtless, like other Lilies of this class, quite hardy, and will form a grand addition to Lilies for our borders.

DISA GRANDIFLORA.

I have yet another plant in flower now which I believe many a larger garden than mine does not contain, that is *Disa grandiflora*. I have grown it now for a good many years with varying success; sometimes very vigorous, and at other times dwindling away without any apparent cause; but I have known some of our most distinguished nurserymen making the same complaint concerning it. There are so many seedlings now that one often meets with indifferently coloured blooms, but mine, I am glad to say, is brilliantly coloured, and the blossom of good size. I have also a flourishing plant of *Disa Veitchi*, a hybrid raised at the celebrated Chelsea establishment; the plant is very vigorous, but as yet I see no signs of its flowering, and I do not think it is likely to surpass the beauty of *D. grandiflora*. It will be thus seen, I think, that my little greenhouse has simply done its duty, and one must now begin to make preparations for another season. Bulb catalogues keep tumbling in, but I suppose I shall be contented with such as have given me pleasure in the past. I may say that I see a flower coming on *Lilium sulphureum*; but, unfortunately, it is a very late blooming species.—D., Deal.

ROCK GARDENS.

It will be readily conceded that one of the most interesting and charming features in a garden, where the conditions will allow, is a properly constructed rockery, especially in combination with water, and there is no portion of a landscape gardener's vocation that requires more artistic taste and discrimination if it be his desire to approach natural effects. It may be argued that artificial scenes must ever be subordinate to natural formations, and this may be granted. But the latter do not always afford all the essentials for the elaboration of a rock garden, in which it is desirous to introduce a varied collection of alpine and aquatic or other suitable plants, whereas that artificially constructed may be made to afford means for the growth of plants not readily available by the natural formation.

There are, however, artificial rockeries and rockeries, and those artificial incongruities dignified by the name of rockwork would not be tolerated were the owner to study Nature, or to observe a properly constructed and furnished picturesque rockery. He would probably become out of conceit with his own crude structure, consisting possibly of a mound or bank of soil dotted with a heterogeneous collection of rock stones, set up without any regard to stratification or in imitation of other natural disposal of rock stones, reminding one of the arrangement of memorial stones in a graveyard, instead of being half buried, flatwise, or slopingly in the soil, and suitable shrubs, Ferns, and other plants judiciously interspersed among them.

It will be conjectured that the foregoing remarks are intended to apply more especially to those examples too often seen in the small suburban and similar villa gardens, and, unfortunately, occasionally in the more pretentious domain, where more harmonious effects ought to be found. During the last quarter of a century, however, the march of improvement, as in many other respects pertaining to gardening, is perceptible in the designs and construction of "rockeries" and rock gardens, the designer having evidently sought Nature's models for guidance. It is in this latter respect that our leading artists, such as Pulhams, have proved so successful.

A notable and magnificent example is the rock and water garden at The Uplands, near Birmingham (the charming residential abode of T. W. Webley, Esq.), a photograph of a portion of which appeared in the Journal (fig. 16, July 20th), while supplementary to which is now presented by the accompanying picture a special illustration of what may well be deemed a typical artificial rock garden and streamlet. The photograph (fig. 35) naturally fails to convey a full conception of the extent and intrinsic beauty of the scene, partly owing to the intricate conformation of the design. It is really a series of gently overflowing pools and ledges along the route from the beginning to the end at the edge of the spacious lake-centred pool below.

Water, whether in the form of a lake, pool, river, or streamlet, must ever form an important feature, and fortunate is he who is possessed of it in any natural form for utilisation in his garden landscape. A writer on the attributes of water observes, "Nature, as is well known, produces some of her most charming effects with the aid of water. In peaceful moments water displays, as in a magic mirror, the world around—the delicate flowers, the stately trees, rocks, the tender grass blades, the scenic skies themselves, which thus seem to have a two-fold existence in the depths below. The stream in its profounder course flows smoothly enough along; but in the shallows it leaps and bounds on its way, with many a pleasant cascade. Water in truth, so numerous and varied are the combinations

that we may produce with it, might well be termed a fountain of life and scenery." It was when recently viewing the streamlet garden at The Uplands that the foregoing panegyric recurred to my mind, so descriptive was it of the beautiful scene, although of a purely artificial character. Yet so well had the designer executed his work, that, aided by Time's benignant influence, as to rival Nature in one of her most attractive garbs.

Reverting to the arrangement of The Uplands' streamlet, the length and steepness of the natural surface of the ground lent itself admirably to the formation and the carrying out of the design. The sides and bottoms of the lakelets were formed of concrete lined with cement, so as to retain the water at all times, and more especially when even the artificial supply might be temporarily cut off. There

confrere *Hypericum calycinum*. Covering a bold rock, was a mass of *Lithospermum prostratum*, and in the late spring season its masses of turquoise blue flowers must present a charming effect. Elegant fronds of various Ferns lent grace to the scene. Heaths, *Spiræa John Waterer*, and other varieties of the genus also contributed materially to the effect, and particularly attractive were two or three examples of pure white flowered Briar, *Rosa Wichuriana*, known also as the Memorial Rose, depending over large boulders down to the surface of the water.

Plants and shrubs in the larger and deeper lakelets, in closer proximity to the big pool, afforded, as it were, a framework to the picture, whilst also doing duty were to be observed several kinds of semi-aquatic plants, such as the strikingly effective Cat's-tail (*Typha*



FIG. 35.—AN IDEAL ROCK GARDEN.

is such an abundant supply of water at command, that either a diminutive rivulet or a rushing stream is always under control. Each lakelet is furnished with a kind of vegetation different from its fellow. For instance, a charming effect was produced by a flourishing plant of one of Mons. Marliac's red-flowered *Nymphæas* in bloom, and being alone in possession of the shallow bed. In another portion was to be observed a mass of a small yellow flowered Lily, while in a third Humboldt's yellow-flowered *Limncharis* was seen to advantage, additional life being afforded the scene by the presence in one or two of the lakelets of golden carp, disporting themselves in the brilliant sunlight, or seeking retirement beneath an umbrageous leaf.

Numerous other similar charming effects could be given relative to this especial scene, and particularly in regard to those produced by the varied appropriate shrubs and plants bordering in rich and elegant profusion on the sides of the bold rocky stream. Prominent among these is a group of the small yellow flowered Tutsan (*Hypericum Moserianum*), with, on the opposite side a large batch of its Emerald Isle

latifolia), various Reeds, including examples of the beautiful *Arundo phragmites aurea*, an accompanying subject being the Lyme Grass (*Elymus arenarius*) and *E. giganteum*, the graceful *Cyperus longus* and the Great Spearwort, *Ranunculus lingua grandiflora*, *Eulalia japonica zebrina*, Day Lilies (*Hemerocallis*), and the elegant *Gynerium argenteum*, examples of which grow freely as semi-aquatics on rocky mounds. Several varieties of Marliac's *Nymphæas*, including *N. exqu岸ita*, *N. odorata alba*, *N. Laydekeri lilacea*, and *N. Laydekeri rosea* played their part in this ideal scene. It should also be stated that, growing in near proximity to the lake, several large plants of the tall *Rudbeckia Golden Globe* formed a striking feature amid the vegetation around, and charming, too, must have been when in flower the numerous plants of *Iris Kämpferi*, growing freely at the edge of the water.

Did space permit much more could be written of the manifold attractions of The Uplands, and its superb rock and water garden, but perhaps the few imperfect pen and ink sketches, with the accompanying photographic picture, will afford the reader some little idea of

the extent and beauty of one of its chief features, and it would require several additional portraits of the remainder of the scenes in question to ocularly demonstrate their charming characteristics. The person seated on a mound is Mr. Webley's competent gardener, Mr. W. Fawdry.—W. GARDINER.

TURPENTINE AND THE TURNIP FLEA BEETLE.

RAISING CABBAGE PLANTS.

I NOTICED in a recent issue of the Journal an account of Cabbage seed treated with turpentine to avoid "fly," and a recommendation to try the same. Previous to this my young seedlings had been suffering, though not ruinously, from this pest. I damped some Cabbage-seeds well with turps, and sowed the same day, watering at once. At the same time I drilled another lot, undressed, but watered. The seeds in both cases germinated quickly, and owing to the cooler weather the plants have made tolerable progress, but both have been attacked by the fly, although I think the dressed seeds have suffered the least. From my own experience during the three last trying years I find the safest way to raise Cabbage plants is—1, To have stale ground, the staler and more freely worked the better. 2, To avoid the neighbourhood of crops such as harbour the "flies," and even of ground previously cropped by such stock. 3, To water freely. I hosed the bed every night, being fortunate in having water laid on. I think by watering lightly every day when the seedlings appear we should not be much troubled with this most exasperating form of loss.—A. L. K.

[When we inserted on page 68, July 20th, Mr. Hill's note from the "Worcester Herald," we did so for the purpose of affording our readers an opportunity of testing the simple method that he had found "completely successful" as a preventive of the attacks of the destructive enemy in question. So far we have received no confirmation from our readers of the efficacy of the practice advised by Mr. Hill.

The best results that we have seen in raising Cabbage plants in dry hot weather and preserving them from their persistent foe, followed the practice of drawing deep drills as if for sowing French Beans, flooding them with water over and over again as often as it disappeared till the site was thoroughly moist to a depth of 2 feet or more, then scattering in the seeds thinly and covering them with fine dry soil, at once covering the bed with mats or other material for arresting evaporation. On signs of germination, as indicated by the cracking and upheaval of the soil in the channels, the covering was removed, first at night, but shading litter, through which the light filtered, left on the surface for a day or two. Then commenced evening sprayings with petroleum emulsion. The plants in portions of rows so treated were free from the Turnip flea beetle, and with subsequent waterings made satisfactory progress, while those not so protected from attack were devoured.

It is important that the spraying be done every night (not in the morning), and lightly, like dew. It appeared also to act effectively against chaffinches, to which the flavour of petroleum is evidently distasteful.

The emulsion was made by boiling half a pound of softsoap in about a gallon of water, then after taking off the fire, adding and churning violently in for a few minutes a pint of petroleum. This was thoroughly mixed in a large garden can of water, about 4 gallons, for use. So far from injuring the plants the emulsion acted as a mild form of manure, expediting their growth, and being thin in the drills they were sturdy, requiring no "pricking out," with the consequent check and loss of time, preparatory to the final planting. The Abol syringe is excellent for spraying the beds.

The early Cabbage crop is so important, and so many persons have of late experienced difficulty in raising plants of the character and at the time required, that it cannot be other than desirable to publish the results of any experience that has been found successful.]

INDIGOFERA GERARDIANA.

THIS Himalayan plant is the only species of Indigofera that can be properly called hardy in this country, and wherever it will thrive it should be planted, as its floriferousness and graceful habit render it a welcome addition to the shrubbery. It succeeds best when treated as a herbaceous plant, and cut down to the ground every winter, when it will throw from twenty to thirty strong shoots, which commence to flower in June, and continue blooming freely until September, reaching a height of about 4 feet at its best. The flowers are borne in axillary racemes, about 3 or 4 inches long, and are of a deep pink colour, individually small, but making up the lack of size in numbers. The pinnate leaves are the same length as the raceme, and consist of about seventeen or nineteen leaflets, which are covered on both surfaces with minute white hairs.

I. Gerardiana thrives best in a rather light rich soil, and fully exposed to the sun. It likes an occasional top-dressing of good stable or cow manure, or the two combined. It can be readily propagated by cuttings, seeds, and by division of the rootstock. If by the latter method they

should be carefully lifted in the winter, and divided into three or four pieces, which soon start into active growth and make good plants. Old plants which show signs of weakness often take a fresh lease of life when treated in this manner.

It is uncertain whether there are not two forms of this plant in cultivation identical in every respect, except that while one—the subject of this note—is very free flowering, the other rarely blooms in this country, although it grows freely. Luckily the better form is the commoner of the two.—C.

GROWING HOVEAS.

(Concluded from page 126.)

POTTING is best done in the spring months, especially in the case of young plants. In the case of established ones it may be done any time in summer after flowering when fresh growth has commenced. Where proper attention can be given after the plant is a foot or 18 inches high, it may be treated on the one-shift system; in all other cases the successive transfer system should be adopted, and not too large shifts at a time. I need not add that drainage must be particularly attended to. If a plant in an improperly crocked pot is placed on the ground, even for a short time, a worm or two will try and wriggle themselves in, and as the plants neither like much lime water, nor to be much disturbed about the roots when growing, there is a difficulty in getting the slippery gentlemen dislodged. The wire crock is one of the best means for keeping them out.

For young plants the soil should be composed almost entirely of fibry sandy peat, with a little dried leaf mould; as the plants get larger a little fibry sweet loam may be added. The larger the plant and the larger the shift the rougher should the compost be. For medium circumstances the compost will answer well of four parts fibry peat, one part very fibry sweet loam, one part silver sand, and one part of equal proportions of rough charcoal and pounded bricks or broken freestone. The largest piece for a large shift should be less than a Walnut, and the least half the size of small peas, the dust being sifted out before the sand is added. A slight layer of fine compost must be placed upon the surface.

After potting, at whatever time, the plants should be kept closer and warmer than usual to encourage growth, exposing them to sun and air by degrees. The common temperature of the greenhouse in the spring and early summer suits them well when blooming, but when that is nearly over, and the plants have received their pruning, any close pit where a moister atmosphere and a higher temperature can be given them will encourage fresh growth. When that has taken place the roots, if necessary, may be examined, and the plants returned to the same position, taking care, however, that they are more exposed by degrees before the end of autumn, so that the wood may be well matured; on this maturity depends, in a great measure, their winter treatment. Those best ripened will stand a low temperature and an abundance of air that would ruin those more coddled in the autumn.

As a general rule the temperature should be seldom below 45° in the winter if it be desirable to keep the plants healthy. A rise from 10° to 15° may be allowed from sun heat. A slight shade will be wanted when growing in the summer, but full exposure towards autumn. I have seen good plants that were never removed from the greenhouse, but I would prefer a closer and warmer place when making their wood than would suit the generality of greenhouse plants in summer; but if the greenhouse is kept close for the sake of growing Azaleas and Camellias, then that alters the case, and it would just be the place for Hoveas when growing.

The trellis one-sided system, especially for plants that have no liability to twist, twine, or creep, has very properly been discarded. Every appearance of twisting, even when done to give a bush-like character, detracts from the beauty of Hoveas. The bush system must be given at once, when the plant is young, by stopping, and by tying out the side shoots from the base of the plant to the side of the pot, fastening them there to little sticks, or, better still, by strands of fine matting or worsted thread to a ring fixed beneath the rim of the pot outside. This training must also be kept in view when pruning the flowering shoots somewhat freely previously to the plants making growth for another year.

Watering is an essential point; the plants will neither endure the torrent spout system, nor the surface soil the dribbling from a fine rose. A medium between the two will be found the best, such as placing a large potsherd or a good sized oyster-shell on the surface of the pot and pouring the requisite supply slowly on these mediums. I have several times lost fine plants solely, I believe, owing to the careless use of the water-pot. In winter the water should be pure, and not below the temperature of 50°. If enough is given at a time waterings will not often be required in winter. As the flower buds begin to swell more will be necessary, and a very weak solution of decayed cow manure will be advantageous. When growing they must have abundance of water. During the whole period they stand on the shelves in the greenhouse to prevent sudden extremes from sunshine, dry cold air, or brisk fires, the plants will be rendered more secure by standing in double pots, the space between them, at the top at least, being stuffed with moss or any other more suitable substance. When growing the syringe may be applied often, but lightly, morning and evening.—R. F.

"FAMILIAR WILD FLOWERS."—We find in part 20 admirably executed plates of Hedge Calamint, Ragwort, Field Thistle, Tuberos Pea, Red Bartsia, Milk Thistle, Hedge Stachys, Cornflower, or Corn Blue Bottle, Fritillary, and Winter Figwort.

LIVERPOOL NOTES.

SIR JOHN WILLOX, M.P., ON "GARDENING."

THIS popular gentleman, at the opening of the recent Huyton and Roby Show, said that even those who had a small knowledge of flowers, fruits, and vegetables would realise that there was a common universal instinct in human nature to cultivate land. Even young children showed an eager desire to have a little patch of garden for themselves; they watched it with care, and were delighted with the results. That instinct was common, and it developed with maturer years. He was sure that everyone must feel that just as we tend and cultivate things of beauty and of utility in Nature, so should we be elevated and improved in moral and social tone.

Exhibitions of this kind encouraged a spirit of emulation, not only to excel, but to have a knowledge that in that excelling there was great and useful reward. The cultivation of flowers in this country had of late years been wonderfully developed, and while we grew and improved the indigenous flora of our country, we were most enterprising importers from every quarter of the world. The flora of England had been much enriched as a result of the energy and enterprise of our naturalists and nurserymen. He spoke most cordially on the growing success of cottage and allotment gardening, saying that of all the duties he had to perform he claimed the present as one of the most beneficent, practical, and humanising.

Throughout Sir John's remarks met with the heartiest applause. In asking for this short space, I do it with the hope that the weighty words of many other ladies and gentlemen who kindly open our exhibitions may be briefly recorded, and that too, I feel sure, with much benefit to readers.

ENGLISH IRIS.

During recent years the rna on the beautiful Spanish Iris has been simply enormous, but too few realise how charming and lasting are the varieties of English Iris if only given a sound compost of loam, leaf soil, decayed manure, and silver sand to grow in. No one in the neighbourhood grows them better than Mr. Cromwell, the head gardener at Cleveley, Allerton, the residence of T. Sutton Timmis, Esq. A bed slightly protected from the sun's rays by a covering of tiffany was a week or two ago one of the daintiest sights one could wish to see, all colours of blue, purple, and white being in evidence, as well as others difficult to define. With such a demand for cut flowers no wonder Mr. Cromwell looks well in advance, and in this case the selection was to the point, as they were just succeeding a grand bed of the Spanish varieties, which I also had the pleasure of seeing in their full beauty.

CARNATION RAISING IN LIVERPOOL.

"Honour where honour is due," so runs the motto; and few persons would hesitate in joining with me in giving a first and foremost place to Mr. C. A. Young, F.R.H.S., the respected proprietor of the Floral Nursery, West Derby, Liverpool, for his untiring energy in the culture of the Carnation in pots. Until Mr. Young appeared on the scene there was scarcely any place in the kingdom more backward in Carnation culture; but he, with characteristic determination, perceived the want, and lost no time in setting to work to master the culture of perhaps the most difficult type—viz., the Malmaison.

Soon indeed were the beauty of "Young's Malmaisons" recognised, and from small beginnings several houses were soon needed to accommodate the splendid stock with the almost "electric blue" of the foliage, and without a trace of rust. Other varieties were taken in hand with the same success, readers knowing them so well as to make me refrain from adding further praise. One would have almost thought that in Liverpool the zenith had been reached, but on a visit to the West Derby Show, I was astonished to find a fine new span-roofed house 70 feet long containing 4000 plants. On inspection I found that hundreds were already fertilised, for as Mr. Young said he did not see why the work should not succeed in Liverpool as elsewhere, and that having bought some of the latest and best from Messrs. Benary, Douglas, and Martin R. Smith, he intended to make no half-hearted start.

AT WOOLTON WOOD.

On paying a visit recently to the above beautiful residence of Holbrook Gaskell, Esq., J.P., I was much pleased with the improvement in the Orchid department, and Mr. Todd is to be complimented upon it. The splendid *Coclogyes* were making grand growth, and the *Masdevallias*, which were just going over, gave indication of the fine harvest of flower that had been gathered. In flower was the quaint but handsome *Utricularia montana*, growing in baskets suspended from the roof. *Dendrobium Deari* showed excellent culture, as did the charming *Thunia alba*. *Vandas* and *Cypripediums* in variety were to be seen on all hands, but certainly the great attraction was the house of the charming *Odontoglossum* (*Miltonia*) *vexillarium*, perfectly flowered and in faultless condition as regards health. This is one of those Orchids too often seen dragging out an existence, so that when one comes across such a choice collection as this it makes the recording of the fact a double pleasure. A natural fernery is to be seen, the specimen Tree Ferns are quite up to the roof, and how they would expand if more room could be allowed cannot be surmised. Underneath is carpeted with smaller species, but nothing more interesting than the magnificent *Todeas*, which have without doubt found a congenial home.

GRISELINA LITTORALIS.

This is one of the hardest and handsomest evergreen shrubs that

we have, yet scarcely ever seen in abundance. When visiting the well-kept nursery grounds of Messrs. Alex. Dickson & Sons, Newtownards, I was obliged to stop and admire the large breadth of this light green shrub with its thick oval leaves and erect growth, and was told that it would stand the hardest of winters, and for town work and as lawn specimens it could not be surpassed. The latter part of the statement I can vouch for, owing to our paying a visit to Lord Londonderry's charming Mount Stewart estate, where, at the instigation of Lady Londonderry, this *Griselina* had been dotted about as single specimens, several being some 7 feet in height and of perfect pyramidal form. Against choice *Conifers* they hold their own by reason of their distinct appearance.

Small plants brought over have done well here, and make a contrast to the somewhat limited number of shrubs that thrive freely with us.

IN THE LIVERPOOL PARKS.

With the exception of the improvements recently carried out in many of our Liverpool parks, little has been said about the excellent culture of some of the most popular of our flowering plants, which are grouped together and publicly displayed for the benefit of the population. Time was, and that not long ago, when the visitors might be counted in small numbers, but since the generous gifts of Mr. Yates Thompson a new era seems to have been entered upon, and thousands may be seen eager to view the delights and beauties of the floral creation.

I hope from time to time to be able to send a few short notes, the first of which are on the Cannas, Begonias, and Lilliums in Setton Park. In dealing with the Cannas it may be at once said that they are a striking success, every variety of note being grown, flowered, and so correctly labelled as to make the selection of varieties a very simple matter. It is only where so many are grown that one is able to choose the very best. The house in which they are arranged is well adapted for their culture, being about 120 feet long and some 20 feet wide, and with rather a flat pitch of roof. Throughout the wide centre stage is fully occupied with them, and were it only for the bronze, purple, or green foliage this would be well worth seeing.

But that is not the only condition to look at, for I cannot call to mind plants so well cultivated in pots or so superbly flowered, the effect being a mass of colour of the richest shades. Of the best I noted in the green-leaved section—E. Mieg, a deep cerise, with very broad petals; Comte H. de Choiseul, beautiful cerise purple, large truss; Miss Sarah Hill, scarlet edged with gold, very free; Doyen Jean Liabaud, orange speckled deep cinnamon, immense truss; L. E. Bally, canary yellow, maroon spots, distinct; Kaiser Wilhelm II., brilliant scarlet, very good; Mrs. Fairman Rogers, a great improvement on Madame Crozy; Rose Unique, very dwarf habit; Progression, richest orange, heavy crimson spots of the freest character, most handsome; and Florence Vaughan, which is without doubt a gem in every way, the rich yellow ground and intense crimson spots showing to perfection. The giant section was splendidly represented, the two standing out most prominently being Austria, with almost self coloured blooms of the clearest canary yellow. The flowers are large, and it is a great advance. Italia with its fine spikes of intense scarlet flowers and broad yellow edge, most telling. The above are all quite worthy of inclusion in any selection.

The Begonias, numbering 700 or 800 plants in 7-inch pots, were arranged on the side stages, and formed a brilliant contrast, their dwarf habit, large flowers, and innumerable shades of colour, equalling anything hitherto seen in any part. In the absence of Mr. Herbert, the chief of the parks, I was courteously shown round by Mr. Samuel Moore, who has charge of the glass in this department, and who deserves every commendation for good work done. Leaving here I was soon in sight of the Palm house, which on entering presented a beautiful appearance. It was evidently the time of Lilies, circular groups of well flowered *L. album*, *Kraetzerei* and *L. Melpomene* arranged on the wide paths, the base composed of Maidenhair Fern with white and crimson *Gloxinias* dotted here and there, being most convincing. The greater group was all *L. auratum*, and chaste and beautiful they looked against the grand foliage plants. Mr. White, who superintends here, is to be complimented.—R. P. R.

ONION CULTURE.

I WAS very pleased with Mr. R. P. Brotherston's lucid and practical note on this subject, as although I have no wish to again open the subject of raising this crop under glass in preference to sowing in the open, it is, I suppose, always satisfactory to a writer to find his observations confirmed. Fighting the maggot, as I have repeatedly pointed out in the gardening press, is much easier under the new, or, as Mr. Brotherston has shown, the comparatively old plan of raising and transplanting them when the crop is sown in drills in the usual way, and for one I am convinced that labour is if anything saved thereby.

No one is less fond than I of fads and faddists, but when I find that by practising a new method I get better results, then I follow it. Respecting the practice of sowing Onions in autumn and showing in spring-sown classes, I see no harm as long as the schedule asks for a certain variety of Onion with no distinction as to time of sowing. Again, if it says so many "spring Onions," there is no doubt but "spring-sown Onions," is at once understood, and if autumn-sown bulbs were shown I should disqualify. Quite recently at a local show I was judging from a schedule which said "twelve spring Onions," and though I am sure the first prize twelve were raised in autumn I could not disqualify, as the schedule was too vague.—H. R. RICHARDS.

CULTURE OF FUCHSIAS.

THESE old favourites are not grown in many parts of the country either so extensively or so well as they deserve. Scarlet Pelargoniums and tuberous Begonias are very well in their way, imparting a blaze and providing a show not perhaps attainable without their use; but mere glare and gaudiness in a greenhouse, especially at a season when there is glare enough and to spare outside, have not the soothing influence of the grace and quiet beauty of the Fuchsia when well grown. Skill of the commonest sort will provide a display of Zonals and Petunias, while little skill will provide Balsams and other plants which find their way to the rubbish heap sooner or later; but good culture is required to produce Fuchsias from 6 feet high and upwards perfectly furnished with growths, so that no stem or twig is seen, and so densely covered with flowers that 2 inches without blooms could not be found in the whole plant. Yet it is not so much skill that is wanted as love for the plant, for where love is there will be attention; where love is not there will be inattention and failure.

The soil is the main item in Fuchsia culture. It needs something solid and good. No natural loam is half good enough or rich enough. One-year-old turf from a medium loam may be taken as the best basis; still, as it is only what is artificially supplied that is to be depended on, that rather than the medium ought to be most thought of in preparing the compost. The Fuchsia requires nitrogen, phosphates, and potash. I have never found a better way of giving these than by laying up good loam months before it was wanted with layers of cow manure between, and then a soaking of urine. Under cover, no rain washed the manure out, the soil fixed the potash and the phosphates, and 'turned the urea to nitrates. Meanwhile the cow manure had become soil—not the greasy fermented soil of a manure bed, and not the acidulated humus manufactured by worms—but sweet, light, wholesome, nutritious soil, gifted with root-producing, root-feeding powers. Soil so prepared would produce luxuriance in anything—for a time. But "nothing in this world can last," and nitrates speedily leave a soil through which water runs as it usually does in pots. Manure is not so rich in phosphates as one might think, and potash and phosphates are soon exhausted when only a small pot holds the rooting ground of a large Fuchsia. When the loam is chopped up for using at no time then we sprinkle a little bonedust to yield future supplies of phosphates and also ammonia. The main supply of nitrogen we leave to the future, and other minerals (over and above the phosphates and potash) are supplied in the merest sprinkling of wood ashes. When the loam is very heavy or fibreless a little sand is given—only then.

ROOTING CUTTINGS.

In the matter of raising plants the only beginning is with cuttings. Of course, only those who have old plants from which to take cuttings can thus begin. Those who have not cannot get their young plants in too small a state. As usually treated plants of any great size have a check, and are not worth having. I cannot tell what time of the year is best for rooting cuttings, but prefer January. Cuttings taken then and properly treated will be 3, 4, 5, 6 feet high bushes, and beautifully furnished the same year. A heat of 60° is needed to do the cuttings justice, and moisture to prevent flagging is necessary. If this can be given, an open bed is much to be preferred to a close case. Open porous loam with just a suspicion of sharp sand at the base of the cuttings is the best medium to root them in, and it should be on a bed or in a box. The single-pot system is the plan to be avoided.

If the soil is kept warm—about 70°, and the cuttings never flag, they will speedily root and commence growing. If the soil is such as I have described they will grow vigorously. If only ordinary loam is used, and the orthodox leaf soil and sand added do not be disappointed if they fail to move. When the growth is started the plants should be transferred to 4-inch pots. The loam should be made friable and porous, and only moderately firm. The crush of roots will make it too firm by-and-by. Moreover, we want the present roots to multiply rapidly to seize the nitrates and pass them up to the leaves to be manufactured into plant tissue. One crock in the bottom of the pots, which must be without a suspicion of clogging dirt, will be enough. The soil should be warm. Returned to their warm quarters, given plenty of room, and all the air and light possible, they will grow very rapidly, and in a few weeks will take another shift.

TRAINING.

Long before shifting is necessary, for I prefer a pot pretty well filled with roots, I am not sure but the nitrogen in the soil may be getting scarce. As soon, therefore, as the surface of the pot is white with roots, as it will surely be in open wholesome loam kept properly moist, yet never so wet as to induce souring, I begin to give liquid manure. Nothing surpasses urine. The water is just tainted with this, and the result justifies the practice. The urea in it as well as the potash are directly assimilable, and so long as every drop of water contains both the plants never want. Anything above a taint under such conditions is too strong. Staking always requires attention, and also pinching. When rapidly grown in a temperature of from 55° to 65° and well fed, pinching is hardly wanted. Varieties of good habit grow the shape of a Spruce Fir naturally, and that form is the best. One stake is sufficient up the centre. A leader must be kept for training to this. If it grow freely and furnish side shoots plentifully let it go. If it fail to furnish these, or if it show flowers, the top must be pinched and repinched, and a new leader selected continually. The side growths should be similarly treated, and tied in to furnish a pyramid as perfect as possible.

REPOTTING.

In repotting keep the soil rather low in the pots, and when the pots

are filled with roots top-dressing and mulching can begin. The roots always come up, and must be both fed and protected. Large pots are not advisable. In such soil as I have recommended, and such manure be applied as advised, plants from 6 to 7 feet high, half covering the pot, and 3 to 4 feet through at the base, may be grown in robust health in 10-inch pots. They must never once become dry. By continually syringing, occasionally putting a little soft-soap in the water, green fly and red spider will never be seen, and by judicious shading the flowering period may be kept up for months. If urine is thought objectionable because of the smell, nitrate of potash will make a capital substitute, better than sulphate of ammonia. Fuchsias so fed may be kept in good health for years in the same pot. But we can do better; we can repot them and give them fresh soil, which acts like a charm.

Fuchsias grown in the liberal way here recommended require a check in October. A proper drying-up accomplishes this, or a touch of frost will do it. The frost is dangerous: the drying gives a check that weakens much. It is successful, though. The sap goes out of the branches, they are pruned, and in a month or two push again, though very weakly. The drying killed the roots, and only slowly the plants recovered. But they are in that way when they are shaken out of their pots, root-pruned, and repotted. A check follows a check, both unnatural, dead branches, feeble growths, and eyesores being the result. A better way is in autumn to pinch all growing shoots, then a week after to turn the plants out of the pots, reduce the balls, and repot. The soil is kept moderately moist. Under this treatment the tops grow no more. The leaves, instead of falling desiccated and dried to death, ripen off, and deliver their essence to the stems, which, instead of being sent to rest unprovided with a store to start the plant in spring, are stored full. The roots, instead of being dead, grow into the new soil, and in thus growing take off the surplus energy of a plant eager to advance. Such a plant not only starts with very much greater energy in spring, but gets no check afterwards, and instead of dead shoots and paltry growths, becomes a huge shrub or small tree.

Space forbids particulars about pruning, training, and routine treatment. But I have pointed out the points where would-be Fuchsia growers err. The soil, potting, feeding, repotting, and root-pruning are the salient points, and when these are rightly attended to training and pruning are secondary points that the judgment alone can guide in.—H.

SEASONABLE NOTES ON FIGS UNDER GLASS.

THE earliest trees in pots—a very desirable mode of securing fruit much appreciated at dessert during April onward—may be placed outdoors if the wood be ripe; but if there is any doubt about this, the trees must be continued under glass with a free circulation of air. These are matters on which the cultivator must exercise judgment. In either case encourage surface roots by a top-dressing of rough loam and manure, with a sprinkling of superphosphate occasionally, for fruit next year is proportionate to the matter stored in the trees this season. Those placed outdoors must not be allowed to root from the base of the pots. Cut off all such roots, top-dress, after which give a good watering, and they will need no more water at the roots than sufficient to keep the foliage in health.

In the house of planted-out trees started at the new year, and borne two crops of fruit—one in May and June, and the other in August and September—the wood will now be ripening, and the supply of water may be diminished or discontinued, air being given very liberally. If, however, the second crop is not yet ripened, moderate moisture in the soil will be necessary, with a rather free circulation of warm air to insure high quality in the fruit. When the fruit is gathered take prompt measures to destroy insects, syringing with water forcibly at 130° to 135° to dislodge and kill red spider, and also have a good effect on brown scale. This may be annihilated by treating the affected parts with a brush just moistened in methylated spirit, even the small Fig scale.

The fruit of trees in cool houses are particularly fine, and the second crop is likely to ripen. If any are left with this object it should be at the base of the current growth, removing those from the points of the shoots. The great point is to keep the growths thin and the roots restricted, so as to secure short-jointed, well-ripened wood. Keep up a circulation of air, expose the fruit as much as possible to the sun, and keep the trees free from red spider by forcible syringing after closely picking the fruit.

Planted-out trees often grow rampantly, and produce scanty crops. Such trees may have a trench taken out, at 3 to 4 feet distance from the stem, after the fruit is gathered, which by cutting off the roots down to the drainage will give a sudden check, fatal to late growth, but assisting the ripening of the wood and the formation of Fig-buds in the joints of the shoots, these being allowed to grow up to the light instead of being closely tied in. When the leaves are about to fall lift the trees carefully, and replant in fresh soil, over a foot of clean rubble for drainage. Good loam, with a sixth of old mortar rubbish, and a similar proportion of road scrapings, will grow Figs to perfection. A border 24 inches deep suffices, and it need not be more than one-third the width or height of the trellis. Let it be firm, then the trees, other conditions being favourable, will produce excellent Figs, instead of little beyond leaves and wood.—GROWER.

AN ECCENTRIC CUCUMBER.—A remarkable Cucumber has been grown at North Rise, Darlington, the residence of Mr. E. D. Walker. It is a twin Cucumber, one growing inside the curve of the other from the same stem, whilst both are of perfect shape. Although there have been many eccentric Cucumbers, people who have seen thousands grown say they have never inspected one like the present specimen.

SABBATIA CAMPESTRIS.

THE flower, "F. W.," represents *Sabbatia campestris*. The *Sabbatias* are a small genus of North American plants, chiefly biennials or annuals, bearing showy, brightly coloured flowers. They can be readily raised from seeds either sown out of doors in a sheltered border or in pots under glass. *S. campestris* is one of the very showiest of our hardy outdoor annuals, having deep rosy-lilac flowers. It grows from 6 inches to a foot high, and is of branching habit. The flowers are nearly 2 inches in diameter. It grows well in ordinary garden soil, and, from the time the flowers keep fresh after cutting, is very useful for purposes of decoration. It flowers from June to September. The woodcut (fig. 36) represents a spray with several flowers.

CLEMATIS.

OF all the climbing plants that are used for outdoor effects in this country probably none is more popular than the different *Clematis*, with their brilliant colours, and free, graceful growth, their long succession of flowers, and their all-round usefulness for quickly covering bare or unsightly places. They are easy to manage, provided a rich soil and a well-drained position are assigned to them, but the plants must on no account suffer from dryness at the root. Proper attention should also be paid to pruning. This varies for nearly every species or hybrid, but, broadly speaking, those which flower on the current season's wood should—in winter or early spring—be cut to within a foot or two of the ground, and those which flower on the old wood ought merely to have the shoots thinned without being shortened back or the flowering wood is cut away.

Many of the species are worthy of more extended cultivation than they receive. A few of the best are *C. campaniflora* from Portugal with small light mauve, bell-shaped flowers; *C. coccinea*, a herbaceous species from Texas with small tubular vermilion and yellow flowers, succeeding best against a wall or in a warm sheltered position; *C. flammula*, with small white sweet-scented flowers; *C. recta*, a dwarf herbaceous species with small white flowers and a profuse bloomer, having any number of names for its slight differences of habit or flowers; *C. integrifolia*, with purple flowers of medium size; *C. vitalba*, the well-known Traveller's Joy or Old Man's Beard; *C. montana*, the early white-flowered Himalayan species so often seen in villa gardens; *C. orientalis*, with small yellow flowers; and *C. viticella*, a common European species, in its different colours of purple, red and white, are all desirable plants and easy to cultivate.

Of the hybrids that have been raised it is almost impossible to give a selection, as all are equally good, and what one person might call the best, another would probably assign to a far lower place. The well-known purple Jackmanni and its white form Jackmanni alba; Gipsy Queen, a rich velvety purple; magnifica, purple, with reddish bars; Anderson Henryi, with large creamy-white flowers; La France, deep violet-purple; Duchess of Edinburgh, a fragrant double white; and Beauty of Worcester, rich bluish-violet flowers, which are produced both single and double when the plant first commences flowering, but are afterwards entirely single, are good and free-flowering, and cannot fail to give satisfaction.

The large-flowered hybrids are seen to the best advantage when planted in a bed with some rough stakes to climb over. The centre stakes should be higher than those on the outside, as these plants become bare at the bottom in the course of a year or two, and if this is not guarded against a top-heavy looking bed will be the result. The species, on the contrary, remain clothed to the base.—C.

BLADDER SENNA.

THE Woody Bladder Senna, *Colutea arborescens*, is not commonly grown, which I think is a mistake, as flowering shrubs are not too plentiful in July and August. True, the peduncles of bloom are not as conspicuous as Spanish Broom, but they are pretty, Coronilla-like, each peduncle usually bearing about six yellow flowers, which are followed by very curious bladder-like fruit or seed-pod receptacles, imparting to the shrub or low-growing tree—usually 6 to 10 feet in height—a very singular appearance. It is deciduous, readily increased by seeds, which ripen in abundance, or by cuttings inserted in sandy soil in the autumn. One of its great features is that of its thriving in almost any situation.

According to reports of travellers it grows on the crater of Vesuvius, where little other vegetation exists, but is a native of Middle and South Europe, in hedges and bushy places. Smoke and sulphurous fumes make no difference to this curious shrub, as on the embankments of some of the London railways, especially near Dalston and Hackney, it forms luxuriant and beautiful bushes, thriving better than most shrubs under the exacting conditions. Taking this into consideration, and seeing so many railway embankments, with heaps of rubbish in smoky places, practically devoid of vegetation, that cannot either be termed curious or beautiful, the hint here thrown out may be useful to some readers of our Journal; but of its fitness for such positions north of Hertfordshire I have no experience.

Can any correspondent answer for the doings of the Woody Bladder Senna in the western and northern manufacturing towns? Most of the *Poa* family succeed in smoky districts, the species or varieties being sufficiently hardy for the location. Why should not this be given trial? —G. ABBEY.

SHOWS.

NATIONAL CARNATION AND PICOTEE SOCIETY.

NORTHERN SECTION.—AUG. 11TH.

THE twenty-fifth annual exhibition of the above Society was held in the Coal Exchange, Manchester, on Friday, August 11th. Owing to the exceptional heat the number of exhibits was not so large as in former years, only one grower from the Midlands being present. Taken on the whole the quality of the blooms was good; yellow grounds and Fancies being particularly fine.

Twelve Carnations, bizarres and flakes, dissimilar.—First, Mr. T. Lord, Todmorden, with Gordon Lewis, J. W. Bentley, Robert Lord, Mrs. Rowan, C. F. Thurstan, Sportsman, Geo. Melville, Admiral Curzon, Mrs. Shaw, Sarah Payne, and Joe Edwards. Second, Mr. J. Whitham, Hebden Bridge, with Gordon Lewis, Cristagalli, Wm. Skirving, Seedling, Mrs. T. Lord, Tom Macreeth, Geo. Melville, Mrs. Barlow,



FIG. 36.—SABBATIA CAMPESTRIS.

Master Stanley, Mayor of Nottingham, Arline, and Robt. Lord. Third, Messrs. Artindale & Son, Sheffield; fourth, Mr. E. Kenyon, Shuttleworth.

Six Carnations, bizarres and flakes, dissimilar.—First, Mr. C. Head, Hebden Bridge, with Admiral Curzon, Edith Annie, Geo. Melville, Mrs. T. Lord, Harrison Weir, and Othello. Second, Messrs. Sutcliffe and Uttley, Hebden Bridge, with Master Fred, Geo. Melville, Robt. Houlgrave, Arline, Sarah Payne, and Sportsman. Third, Mr. C. F. Thurstan, Wolverhampton; fourth, Mr. D. Walker, Kilmarnock; fifth, Mr. L. B. Bleackley, Heywood; sixth, Mr. J. W. Bentley, Castleton; seventh, Mr. E. Shaw, Moston; eighth, Mr. J. Etherington.

Twelve Picotees, white grounds, dissimilar.—First, Mr. T. Lord, with Heart's Delight, Mrs. Foster, Muriel, Brunette, Amy Robsart, Harry Kenyon, Fortrose, Polly Brazil, Mary D. Anastas, Thomas William, Nymph, and Ganymede. Second, Mr. D. Walker, with Mrs. Bewick, Mr. A. Chancellor, Mrs. Payne, Eather, Polly Brazil, Harry Kenyon, Brunette, Acme, Mrs. Openshaw, Ganymede, Grace Ward, and Mrs. Sharp. Third, Mr. J. Whitham. Fourth, Messrs. W. Artindale and Son. Fifth, Mr. L. B. Bleackley. Sixth, Mr. E. Kenyon.

Six Picotees, white grounds, dissimilar.—First, Mr. C. Head, with Heart's Delight, Nellie, Royal Visit, Mrs. Gorton, Polly Brazil, and Brunette. Second, Mr. C. F. Thurstan, with Polly Brazil, Nellie, Fortrose, Pride of Leyton, Mrs. Payne, and Lady Louisa. Third, Mr. C. F. Budenberg, Marple. Fourth, Messrs. Sutcliffe & Uttley. Fifth, Mr. J. W. Bentley. Sixth, Mr. E. Shaw. Seventh, Mr. J. Etherington. Eighth, Mr. Jos. Swindells.

Twelve selfs, not more than two flowers of any one variety.—First, Mr. T. Lord, with Seedling, Germania, Ketton Rose, Mrs. E. Hambro, Seedling, Mrs. E. Hambro, Joe Willett, Eunice, Gentle Jackie, Joe Willett, Mrs. T. Helliwell, and Seedling. Second, Mr. D. Walker, with Germania, Mrs. E. Hambro, Ketton Rose, Mephisto, Mrs. Jas. Douglas, Moonbeam, Maecunian, Moonbeam, Germania, Mrs. W. Coal, Mrs. E. Hambro, and Mrs. Jas. Douglas. Third, Messrs. W. Artindale & Son. Fourth, Mr. E. Kenyon. Fifth, Mr. L. B. Bleackley.

Six selfs only, not more than two flowers of any one variety.—First, Mr. J. Edwards, Moston, with Germania, Sadek, Seagull, Emir, Sadek, and Regina. Second, Mr. C. F. Thurstan, with Germania 2, Lady Hindlip 2, and Mrs. E. Hambro 2. Third, Mr. C. Head. Fourth, Mr. G. Lord, Shuttleworth. Fifth, Mr. E. Shaw.

Twelve Fancy or yellow ground Carnations and Picotees, not more than two flowers of any one variety.—First, Messrs. W. Artindale and Son, Sheffield, with Brecklin, Mrs. A. Tate, Joe Barpiel, Mrs. A. Tate, Geo. Rawton, Monarch, Primrose League, Brecklin, Curtius, Mrs. Mackenzie, Monarch, and Cardinal Wolsey. Second, Mr. D. Walker, with Voltaire, The Gift, Golden Eagle, Romulus, Wanderer, His Excellency, May Queen, Badminton, Voltaire, Eldorado, His Excellency, and Czarina. Third, Mr. T. Lord. Fourth, Mr. C. F. Thurstan. Fifth, Mr. J. Edwards.

Six Fancy or yellow ground Carnations or Picotees.—First, Mr. J. Brocklehurst, Moston, with Voltaire 2, The Gift 2, Cardinal Wolsey, and His Excellency. Second, Mr. Jos. Swindells with Voltaire 2, The Gift, Stanley Wrightson, Badminton, and The Gift. Third, Mr. C. F. Budenberg, Marple.

Six Carnations or Picotees, white grounds, for maiden growers only.—First, Mr. C. F. Budenberg, Marple, with Robert Houlgrave, Geo. Melville, Favourite, Lena, Gordon Lewis, and Mrs. Rowan. Second, Mr. G. Lord, Shuttleworth, with Mrs. Beawick, Favourite, Mrs. Willson, Thos. William, Mrs. Gorton, and J. B. Bryant. Third, Mr. Jos. Swindells.

Six Self or Fancy Carnations, maiden growers only.—First, Mr. C. F. Budenberg, with Germania, The Czar, Miss Maud Sullivan, Yellow Hammer, Golden Eagle, and Badminton. Second, Mr. Geo. Lord, with Gneist, Voltaire, Badminton, Silver Strand, Mephisto, and Mrs. Colby Sharpin. Third, Mr. Jos. Swindells.

SINGLE BLOOMS.

Scarlet bizarres.—First and third, T. Lord, with Admiral Curzon and Robt. Lord. Second and fifth, E. Kenyon, with Robt. Houlgrave. Fourth, J. Edwards, with Admiral Curzon.

Crimson bizarres.—First and fifth, C. F. Thurstan, with J. S. Hedderley and Rifleman. Second, J. Edwards, with Geo. Rudd. Third and fourth, T. Lord, with J. D. Hextall and Thaddeus.

Pink and purple bizarres.—First and second, T. Lord, with J. W. Bentley and Sarah Payne. Third, C. F. Thurstan, with Rifleman. Fourth, J. W. Bentley, with Sarah Payne.

Scarlet flakes.—First and third, T. Lord, with Sportsman. Second, D. Walker, with Wm. Dean. Fourth, Sutcliffe & Uttley. Fifth, Mr. L. B. Bleackley, with Miss C. Graham.

Rose flakes.—First and second, T. Lord, with Mrs. May and Mrs. Rowan. Third, D. Walker, with Mrs. T. Lord. Fourth, L. B. Bleackley, with Crystal Rose. Fifth, J. W. Bentley, with Cristagalli.

Purple flakes.—First and third, T. Lord, with Gordon Lewis. Second, C. F. Thurstan, with Geo. Melville.

Picotees.—Heavy edged red.—First and second, T. Lord, with Brunette. Third and fifth, E. Kenyon; fourth, D. Walker, all with Brunette.

Light edged red.—First and second, T. Lord, with Mrs. Gorton and Thos. William. Third and fourth, L. B. Bleackley, with Mrs. Gorton. Fifth, W. Artindale & Son, with Wm. Summers.

Heavy edged purple.—First and second, T. Lord, with Polly Brazil and Amy Robsart. Third, L. B. Bleackley, with Zerlina. Fourth, Artindale & Son, with Amy Robsart. Fifth, C. F. Thurstan, with Amy Robsart.

Light edged purple.—First and second, T. Lord, with Harry Kenyon and Nymph. Third, C. F. Thurstan, with Somerhill. Fourth, J. Edwards, with Pride of Leyton. Fifth, E. Kenyon, with Harry Kenyon.

Heavy edged rose, scarlet or salmon.—First and fifth, T. Lord, with Royal Visit and Campanini. Second, C. F. Thurstan, with Little Phil. Third, L. B. Bleackley, with Little Phil. Fourth, J. Edwards, with Flirt.

Light edged rose, scarlet or salmon.—First and second, T. Lord, with Favourite and Fortrose. Third and fourth, J. Edwards, with Evelyn. Fifth, C. F. Thurstan, with Nellie.

Premier prize for best Carnation.—Mr. T. Lord, with J. W. Bentley. Premier prize for best Picotee.—Mr. T. Lord, with Brunette.

First-class certificates were granted to the following new varieties:—"J. W. Bentley," C.B. or P.P.B., and "C. F. Thurstan," C.B. or P.P.B., both from Mr. T. Lord.

CRANLEIGH.—AUGUST 16TH.

THIS was one of the latest of the Surrey local shows, of which there are so many in the county, and was a remarkably good one. All the competitive classes were restricted to cottagers or small gardeners, and the Potatoes, Beans, Peas, Onions, Carrots, Parsnips, and some other products have not been excelled in the county. The district, too, seems famous for its honey, for the show of this product was quite a remarkable one.

A very interesting feature was the great group of plants from gentlemen's gardens, which occupied one side of the centre of the tent, so

arranged that they resembled one great group, yet the plants came from several gardens. The way the gardeners united to make one good general effect cannot be too highly praised. The entire group was 70 feet long, and began at one end with a nice collection, which included some superb crimson Cockscombs from Mr. Stemp, gardener to Sir G. F. Bonham. White pyramidal Campanulas were also very fine. Next came a good selection of plants, in which capital Caladiums predominated, arranged by Mr. Turvey, gardener to Sir Richard Webster, M.P., following whom came Mr. Glen, gardener to Pandeli Ralli, Esq., whose collection included Palms, Lilliums, Celosias, and Cattleyas. Then there were plants arranged by Mr. Farnfield, gardener to E. C. Healey, Esq., all excellent; and finally the group finished with a collection that had in it some superb Gloxinias, shown by Mr. Lapworth, gardener to Miss Barnard Hankey.

Mr. Turvey sent also a capital collection of Show and Cactus Dahlias, with Grapes and superb Tomatoes; Mr. Belcher, gardener to Sir E. H. Carbutt, good Roses, Melons, and Peaches; Messrs. G. Jackman & Sons, Woking, a fine collection of cut flowers; and flowers from Mr. Virgo, The Nurseries, Womersley. The cottagers' products were numerous, and manifested little evidence of the season's drought.—A. D.

TROWBRIDGE.—AUGUST 16TH.

THE fiftieth annual Show of the Trowbridge Horticultural Society was held on the above date, and was largely supported both by attendance and number of exhibitors. Beyond the Veitch Memorial medal and prize of £5, and two silver medals presented by Mr. R. Dean, V.M.H., who has been one of the Judges for an unbroken period of over twenty years, very little effort was made by the Society in celebrating its Jubilee, so far as it affected the prizes offered. Many of the classes are a repetition of those known thirty or more years since, owing entirely to an absence of practical knowledge in gardening matters in the Committee, there not being one of its members connected with horticulture in any way. The Show itself was an excellent one in almost every division, the most notable feature being, perhaps, the magnificent Fuchsias and large flowering specimen plants and fruit.

Two classes only were provided for Fuchsias, but these made quite an exhibition in themselves, the veteran Mr. George Tucker, who has been an exhibitor of them for the past twenty-five years, again taking first prize for both six and four plants, Mr. J. Lye securing the second prizes, and Messrs. H. Pocock and P. Huth, Esq., the remaining awards. Mr. Tucker was given Mr. R. Dean's silver medal for the best specimen Fuchsia. Specimen stove and greenhouse plants are always good at Trowbridge, and this year they were as fine as on any previous occasion. Mr. Matthews, gardener to Sir W. R. Brown, Trowbridge, won first for nine plants with large, vigorous, and well flowered specimens, including Heaths, Allamanda nobilis, Bougainvillea glabra, and Dipladenia Brearleyana. Mr. G. Tucker, Hilperton, was a close second, and with D. Brearleyana he secured Mr. R. Dean's silver medal for the best specimen plant in the Show. In the class for six, the same growers won first and second respectively, with Mr. E. Canning, Steeple Longford, following. For three varieties, Mr. Tucker took the lead, Mr. Matthews and Messrs. Stokes & Son securing the remaining prizes.

Three competed for the prizes offered for a circular group, 9 feet in diameter, Messrs. E. S. Cole & Sons, Bath, easily winning from Mr. Pymm, Trowbridge, for a light and graceful arrangement of choice plants. The first named won with a smaller group, Percival Huth, Esq., Freshford, being second, and Mr. G. Hallett, Bath, third. Specimen foliage plants, in nine varieties, found in Mr. Matthews an easy winner, Mr. Hallett being second.

Begonias, single and double, Gloxinias, Zonal Pelargoniums, and Ferns in twelve varieties, were excellently shown by Mr. Tucker for first prizes, A. P. Stancomb, Esq. (gardener, Mr. J. Mitchell), J. Kemp, Esq. (gardener, H. Riff), Mr. Fishlock, Messrs. Stokes & Son, and Mr. H. Pocock being other successful exhibitors. Caladiums in six sorts were well staged by Mr. Matthews; and Coleus by Messrs. Cray & Sons, Frome, and Sir W. R. Brown.

Cut flowers formed a large and varied display, but the drought made Dahlias a smaller exhibition than usual, both in numbers, size, and quality of flowers. For twenty-four varieties Mr. J. Walker, Thame, was first; Mr. G. Humphries, Chippenham, second; Messrs. Cray & Sons and Lindsay, Frome, taking the prizes for twelve. Mr. Humphries had the best Fancy Dahlias, and Messrs. Cray & Sons and Keynes, Williams & Co., Salisbury, the best Pompons. Six classes were provided for Roses, and in each Mr. J. Mattock, of Oxford, won first prize in his well known style, Messrs. Garraway and D. J. Mattock taking the remaining prizes, the competition being confined to fewer growers than usual. Asters were very fine and numerous, as also were hardy perennials, and Gladioli, Sweet Peas, Carnations, and "Geraniums" in bunches.

Five competed for the collection of ten dishes of fruit, distinct varieties; Mr. Pymm, gardener to Mrs. Goldsmith, Trowbridge, being first with good Black Hamburgh, Muscat of Alexandria (poorly coloured), Royal George Peaches, Taunton Hero Melon, Apricots, Nectarines, Apples, Cherries, Plums, and a dish of French grown Williams' Bon Chrétien Pears. Second, Mr. W. Strugnell, gardener to Lt.-Col. Vivian. Rood Ashton, Trowbridge, who had good Foster's Seedling and Alnwick Seedling Grapes, Earl's Favourite Melon, Bellegarde Peaches, and Pineapple Nectarines as his best dishes; Messrs. Cray & Sons were third.

For a collection of six varieties there were six entries, Mr. Strugnell being a good first; Mr. J. Davis, Stockton, second; and Mr. Perry, gardener to Capt. Spicer, Chippenham, third. Four classes were provided for Grapes, and in each there was a fairly large entry. Messrs. D. Sutton, gardener to W. A. Todd, Esq., Bristol Waters, gardener to

E. G. Peacock, Esq., Bath; and Wilkinson, gardener to Mrs. Talbot Greaves, Clifton, being the most successful winners. Mr. Iggulden, Frome, secured both prizes for Melons—green, and any other variety; and with Washington Mr. Strugnell won in the class for Plums.

Peaches and Nectarines were well shown, Messrs. F. Cottle, gardener to E. R. Cox, Esq., Bradford, and F. Ackland, gardener to A. G. Hayman, Esq., Frome, winning with Peaches; Messrs. H. Clack, gardener to C. E. Colston, Esq., M.P., Devizes, and Captain Spicer, showing the best Nectarines. Mr. Lindsay won with dessert Apples in two varieties, and Mr. Strugnell staged handsome Peasgood's and Ecklinville in the class for cooking Apples. Messrs. Hooper and Garraway, Bath, being second and third respectively.

Vegetables showed clearly the effects of the prolonged drought, although quality was a prominent feature in many classes, notably in the collections, Potatoes, Onions, and Tomatoes. Peas were scarce, and Beans were not abundant.

CRYSTAL PALACE.—AUGUST 19TH.

THE fourteenth annual Show of the One and All Agricultural and Horticultural Association was held in the northern transept, and, needless to say, the gigantic building was quite full. The vegetable classes were clearly the feature of the Show, though some excellent hardy fruit and flowers were also on view. The exhibition of produce staged by working men must be regarded as highly satisfactory.

The educational class, for a collection of garden produce, only brought out one competitor. The Judges filled up a list of the possible points, and those gained, with their comments. Mr. R. Chamberlain, gardener to H. N. Lonergan, Esq., Reading, faced the ordeal, gaining eighty-five points out of a possible 135. The exhibit comprised Foster's Seedling and Black Hamburg Grapes, Jefferson Plums, Barrington Peaches, Wm. Tillery Melon, Irish Peach Apples, and Clapp's Favourite Pears in the fruit section. The vegetables were Autocrat Peas, Autumn Mammoth Cauliflower, White Spanish Onions, Perfection Tomatoes, Prizewinner Runner Beans, Satisfaction Potatoes, and Prizewinner Celery. Flowers and table plants completed the display. The Judges recommended a second prize.

The exhibitors were divided into districts, which combined several counties, but the quality appeared much the same all over the country. In the Southern district there were three collections of vegetables of ten kinds. Mr. J. Holton, of the Oxford Co-operative Society, was placed first with a grand exhibit, the Carrots, Onions, and Potatoes deserving special comment, and Mr. W. Smith, of Harrow, was second. In the Midland district, Mr. J. Nowell, of the Salop branch, proved the victor with fine Potatoes, Tomatoes, and Cauliflowers. The Onion classes were well filled with gigantic specimens, Mr. A. Basile taking first place for nine specimens of any new variety with King's New Exhibition for some grand Onions. Mr. Chamberlain was second with good typical Ailsa Craig, and Mr. R. Wadham third with the same variety. Parsnips were notable for Mr. J. Holton's exhibit, the specimens were nearly 3 feet long, and of excellent shape, while several other exhibitors staged fine produce. Mr. J. Holton was again the victor in the collection of six varieties of white Potatoes with a capital exhibit, Mr. A. Basile being a good second, and Mr. W. Emerton third. Tomatoes brought out a fine competition, but Mr. J. Nowell won first place with Perfection, Mr. Basile was second with the same variety, and Mr. W. Turle third.

The collections of vegetables from the Metropolitan area were good, Mr. C. Luff, Bromley, securing first, Mr. J. Burham, Bromley, second, and Mr. J. W. Harris third. In the Southern district Mr. G. Perrin was first with a collection worthy of any show; Mr. G. North, Banbury, was second, and Mr. G. Jordan third. Mr. W. Biles, Wilton, was first in the second southern division, Mr. R. Bargin secured a similar honour in the Midland district. Mr. A. Wilcox was in the same position in the North-Western division.

For five dishes of open air fruit Mr. R. Wadham was the victor with good Peaches, Nectarines, and Apricots, Mr. T. Osman was a close second, while the third place was awarded Mr. R. Nelkin. Mr. T. Osman was the only competitor for a collection of fruit, and was deservedly awarded the premier prize. For three dishes of dessert Apples Mr. W. T. Stowers staged well coloured samples of Beauty of Bath, Hunt's Early, and Lady Sudeley; Mr. R. Nelkin was second, and Mr. A. Basile third. Kitchen Apples were well represented, Mr. W. T. Stowers was first with large, clean dishes, Mr. T. Osman followed with good dishes, as did Mr. A. Basile for third place. These were all very fine. Mr. A. Basile was first in Melons with a good white fruit; Mr. R. Chamberlain followed with a green flesh, while Mr. R. T. Howell was third. Pears though not numerous were good. Mr. A. Basile was first, Mr. H. Moorman, Gloucester, second, and Mr. R. Chamberlain third. Mr. R. Chamberlain was first for Peaches, Mr. R. Wadham second, and Mr. J. Martin, Horsham, third. For a dish of Nectarines Mr. J. Martin led off, closely followed by Mr. R. Chamberlain, while Mr. G. Cheal was third.

The competition in the Grape classes was limited. For two bunches whites, Mr. T. Osman, Chertsey, was first with Muscat of Alexandria, Mr. W. Taylor, Forest Hill, taking second position. For two bunches of black Mr. W. Taylor was first with good bunches of Black Hamburg, Mr. T. Osman following, and Mr. Nelkin third.

Mr. R. Robertson was awarded the first prize for a collection of cut flowers and plants. Herbaceous flowers were admirable, and in most cases well arranged. Mr. C. F. Wood was placed first with good Gaillardias, Phloxes, and Montbretias; Mr. R. Wadham was second, and Mr. R. Chamberlain third. The boxes of Zonal Pelargoniums presented a bright display; in the single varieties Mr. C. Moody, Penge, was first, Mr. A.

Tunbridge and Mr. W. Turle brought up the rear. Mr. C. Moody was first in the double section, followed by Messrs. H. Cooper and R. Robertson.

For twelve Show and Fancy Dahlias Mr. A. Tunbridge was first with twelve even blooms; Mr. W. Baxter, Woking, was second with rather coarser flowers, and Mr. C. F. Wood, Reigate, third. The Pompon Dahlias appeared to be a popular class. Mr. A. Tunbridge was placed first with rather coarse flowers; Mr. C. F. Wood, Reigate, was second with much more typical blooms, and Mr. J. Humphrey, Bromley, was third. The Cactus section brought out some good boards, Mr. A. H. Needs, Woking, being easily first with a beautiful exhibit; Mr. A. Tunbridge was second with a weaker board, and Mr. J. Humphrey third.

Petunias were a feature, and the competition necessarily keen. Mr. C. Osman was first, Mr. J. Holton second, and Mr. G. Cheal, Dorking, third. Zinnias were largely staged, Mrs. Morris, Thame, securing first prize with fine flowers; Mr. W. Emerton, Buckingham, was second, and Mr. J. H. Wilby, third.

Sweet Peas were evidently past their best, though some good exhibits were noticed. The first prize fell to Mr. R. Chamberlain, Reading, with good fresh bunches; Mr. A. Basile, Weybridge, was second, and Mr. R. Wadham third. African Marigolds were excellent, Mr. A. Tunbridge, Chelmsford, staging twelve grand blooms and was awarded premier honours; Mr. W. Emerton was a close second, and Mr. W. Smith, Harrow, third.

Mrs. Morris was again leader in the class for twelve Comet Asters, with fine flowers; Mr. J. Holton was second with a better variety of colours, and Mr. G. Palmer third. The Quilled classes did not compare well with the larger flowers; Mr. J. Holton was first with neat blooms, followed by Mr. A. Tunbridge and Mr. C. Osman, Sutton, in the order named.

The competition for six bunches of annuals was keenly contested. Mr. G. Palmer, of the Oxford Branch, securing the coveted honour with fine bunches of Asters, Zinnias, and African Marigolds; Mr. J. Holton taking second place, and Mr. C. F. Wood, Reigate, third. The Carnations were not up to the standard; Mr. J. E. Bugby, Desborough was first, followed by Messrs. C. F. Wood and Mr. J. H. Wilby in the order named.

The vegetables in the cottagers' section were excellent; though inferior samples were to be seen, they were the exception. The Potatoes, Onions, Marrows, and Carrots were especially noteworthy, as were also some of the cut flowers, such as Sweet Peas, Asters, African Marigolds, and the bunches of annuals.

Messrs. T. S. Ware, Ltd., Tottenham, staged a fine display of Dahlias, mainly of the Cactus and Pompon types; also Begonias and hardy flowers. Chief of the Dahlias were Magnificent, O. E. Greening, Starfish, Keynes' White, Britannia, and Fusilier; and in the Pompon section Jewel, Dora, Bacchus, Guiding Star, Darkness, and Lilian. The One and All Association staged an extensive display of produce, which was characterised by its high quality and excellent staging.

BRIGHTON.—AUGUST 22ND AND 23RD.

THE eighth annual summer show was held as usual in the Royal Pavilion. The plant classes were not so well filled as usual, but the fruit classes were a distinct advance on last year's exhibition, while the vegetable classes were excellent. There were three entries for the group of miscellaneous plants, arranged for effect. All of them were of excellent quality and beautifully arranged. Mr. Geo. Miles, Victoria Nursery, secured first prize with a charming display. The chief plants employed were Palms, Crotons, Acalyphas, beautifully coloured, *Lilium lancifolium* album, Carnations, Gloxinias, Begonias, Ferns, and Asparagus. Mr. Walter Goodliffe, Cambridge Nurseries, Worthing, following with a choice collection of plants, but the machinery was all too apparent, and Mr. J. Hill, gardener to W. Clarkson Wallis, Esq., Withdean, third, with a well displayed group.

For a group of Ferns, arranged for effect, Mr. G. Miles was again the successful exhibitor with a tasteful arrangement, composed chiefly of *Adiantums*. The merit rested with the skill in arrangement. Mr. Walter Goodliffe was placed second with an exhibit of high quality, but again the arrangement was at fault. For six Ferns, distinct, Mr. J. Warren, Handcross Park, Crawley, was placed first, staging *Microlepia hirta cristata*, *Davallia polyantha*, *Cibotium Barometris* in fine form; Messrs. W. Miles & Co., Hove, following with smaller plants, and Mr. W. Goodliffe third.

Mr. J. Warren secured first prize for a specimen Croton with a large well coloured plant of *C. Weismanni*, Mr. H. Garnett, gardener to R. G. Fletcher, Esq., Preston Park, following with a nice plant of *C. Mrs. Dorman*. Messrs. W. Miles & Co. staged a magnificent *Kentia* as a specimen Palm, and were awarded first prize. Mr. F. Rapley, gardener to Miss Visick, Withdean, was second with a smaller specimen; and Mr. G. Stovell, gardener to H. Young, Esq., Withdean Grange, third.

The specimen flowering plants were not well represented. Mr. Geo. Short, Preston, was awarded first prize for a well-flowered plant of *Plumbago capensis*, and Mr. G. Stovell was second with a moderate specimen of *Stephanotis floribunda*. Mr. J. Warren won first honours for six coloured *Dracenas* with beautifully grown plants. The varieties were Lord Wolseley, Warreni, Barroni, Gladstonei, Halseyi, and Lindeni; and Mr. H. Garnett was second with larger plants, but they lacked the quality of the winner's. For six Crotons there was a good competition, Mr. H. Garnett being placed first with some gaily coloured plants. The best were Queen Victoria, Weismanni, and Mrs. Dorman. Mr. J. Warren followed with a distinctive exhibit, and Messrs. W. Miles & Co. were third. The Fuchsias were worthy of note. Mr. H. Head, The Drive Nurseries

Hove, was placed first with six well-flowered plants. Mr. J. Hill followed with smaller but well-grown plants.

There were two competitors for the groups confined to gardeners and amateurs. Mr. W. E. Anderson, gardener to B. Parish, Esq., Brighton, was first with a bright and effective arrangement, and Mr. F. Rapley was second with a group composed chiefly of foliage plants and Ferns. The Zonal Pelargoniums were exceedingly bright. Mr. T. Fairs, gardener to R. Lowe, Esq., Hassocks, was first with clean, bright plants. Mr. H. Head was second with an even exhibit, and Mr. F. Collie, gardener to Mrs. Hughes, Preston Park, th rd. Mr. J. Hill came to the front again for Coleuses with well coloured plants of the pyramid type. Mr. F. Collie was second with large plants, but they were lacking in colour, and Mr. W. E. Anderson third.

The tables of plants are always a feature at this Show, and on the present occasion they were quite up to the average. For the table of Orchids, Mr. J. Harper, gardener to E. A. Tucker, Esq., Preston, was first with an arrangement of Ferns and Orchids, including *Oncidium varicosum*, *O. luridum*, *Dendrobium Phaenopsis Schöderianum*, and *Cattleya gigas*. Mr. H. Garnett followed with an arrangement in which *Odontoglossum crispum* played the chief part. The competition was keen in the class for a table of flowering plants, but Mr. E. Lawrence, gardener to T. Oliver, Esq., Horsham, was easily first with a bright and effective display. Mr. G. Miles followed with a beautiful display, but lacking the quality of the first winner. The tables confined to gardeners and amateurs were equal to those in the open class. Mr. L. Wickens, gardener to Mrs. D. Rowley, Brighton, was first with a light arrangement of Palms, Ferns, Lilliums, and *Hydrangea paniculata*. Mr. W. E. Anderson was a good second with a closer arrangement, and Mr. A. J. Blake, gardener to W. E. Blackston, Esq., third.

There were only two competitors for twenty-four Roses, distinct, and Messrs. D. & W. Croll, Dundee, were the victors. The blooms were wonderfully fresh after their long journey, and included good examples of John Stuart Mill, A. K. Williams, Her Majesty, Madame Eugène Verdier, White Lady, and Mrs. J. Laing. Mr. H. Harris, gardener to Mrs. Eversfield, Horsham, was second with much smaller flowers.

Dahlias are always strong here, but this year the competition was limited. There were only two competitors for forty-eight Show and Fancy varieties; Messrs. J. Cheal & Sons, Crawley, were awarded second prize for a good exhibit which lacked colour, and Mr. W. Peters, gardener to A. J. C. Hare, Esq., St. Leonards, was third with smaller flowers. For twelve bunches of Cactus varieties, Mr. J. Stredwick, Silverhill Park, St. Leonards, gained an easy victory with a grand exhibit. The varieties were Major Tuppenny, Goliath, Magnificent, The Emperor, Countess of Londsdale, Britannia, Eclipse, Uncle Tom, Klondike, Viscountess Sherbrooke, Major Weston, and M. S. Welsh. Messrs. J. Cheal & Sons followed with good sprays of Mary Service, Britannia, Exquisite, and Magnificent. For twenty-four bunches of single varieties, Messrs. J. Cheal & Sons were the only competitors, and were awarded the first prize for a beautifully fresh and bright display. The same exhibitors were also placed first for twelve bunches of Pompons, and the same number of single Cactus varieties in the following class. Gladioli were well shown, and Mr. James Stanning was clearly first for twelve spikes, with well developed flowers; Messrs. R. Wallace & Co., Colchester, were second, and Mr. G. F. Sage, gardener to the Marquis Camden, Lamberhurst, third.

For a collection of hardy cut flowers, Mr. G. H. Sage was placed first, the exhibit was meritorious and well displayed; Messrs. R. Wallace & Co. were a good second, and Mr. W. E. Anderson third.

For a collection of fruit, plants, and flowers, Mr. T. O. Men, Ottershaw Park, Chertsey, was the only competitor, and was awarded first prize; the exhibit included black and white Grapes, Melons, Peaches, Nectarines, Plums, Apples, Pears, Figs, and Cherries. The flowers and plants were not displayed to the best advantage. The competition for three bunches of Muscat of Alexandria was distinctly good, and Mr. G. Duncan, gardener to C. J. Lucas, Esq., Horsham, staged three grand bunches, which gained him first honours. The second fell to Mr. W. Chester, gardener to Sir W. Pink, Cosham, and the third to the Johnson Crook Co., Worthing. For any other white variety Mr. Thos. Osman was first with three bunches of Dr. Hogg; Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, was second with good bunches of Buckland Sweetwater, and Mr. W. Cheater third with the same variety. For three bunches of Black Hamburg Mr. C. Laker, Horsham, was first in a keen competition, followed closely by Mr. W. Mitchell, gardener to J. W. Fleming, Esq., Romsey; while Mr. A. Kemp, gardener to C. S. Scrace Dickens, Esq., Horsham, brought up a very good rear. For two bunches of black Grapes, any other variety, Mr. W. Mitchell was first with superb bunches of Madresfield Court; Mr. W. Taylor was second with the same variety; and Mr. E. Lawrence third with Black Alicante.

For a pair of Melons Mr. J. Gore, Polegate, was first with a pair of small specimens of British Queen and Frogmore Scarlet; while Mr. G. H. Simmens, gardener to H. G. White, Esq., Polegate, was second with another small pair; and Mr. G. Stovell brought up the rear. Peaches were excellent, and Mr. F. Potter, gardener to R. Worsley, Esq., Cuckfield, was first with two good dishes, followed by Messrs. W. Bright and G. Duncan in the order named. Mr. W. Mitchell was first for two dishes of Nectarines with excellent samples of Pineapple and Pitmasston Orange. Mr. W. Taylor was second, and Mr. G. Stovell third.

Messrs. Jas. Veitch & Sons, Ltd., were represented by a choice display of Ferns, foliage and flowering plants, also an extensive exhibit of Apples, which made a commanding exhibit. Messrs. J. Cheal & Sons, Crawley, staged a miscellaneous collection of fruit trees in pots, foliage plants, and a capital display of Dahlias in all sections. Messrs. R. Wallace & Co., Colchester, exhibited a quantity of Lilliums, Gladioli, Montbretias,

Gaillardias, and other hardy flowers. Messrs. W. Balchin & Sons, Hassocks, staged an attractive exhibit of Palms, Crotons, *Acalypha hispida* (Sanderi), Lilliums in variety, Ferns, and foliage plants.

THE YOUNG GARDENERS' DOMAIN.

BEDDING.

ZONAL Pelargoniums in beds are now in their glory, the recent dry and hot weather suiting them wonderfully. How often we have heard that the tuberous Begonia would oust the popular Zonal! At present, however, there is no sign of this useful plant being eclipsed. The Begonia is far from being as accommodating as the Zonal Pelargonium as regards situation. In districts where the soil is not retentive of moisture the Begonia requires water unceasingly to bring it to perfection. On the other hand, once the Zonals become established they revel in these surroundings. However, one must not forget the usefulness of the Begonia during a very wet season. It seems specially constituted to withstand rain, the flowers themselves, although losing their brilliancy, remaining on the plants for a considerable period.

One does not see much of the so-called carpet bedding that was in vogue a few years ago. Gardeners and their employers have come to recognise that taking patterns from household necessities and reproducing them in the garden in no way enhanced its beauty. In certain cases, however, where the surroundings demand it, the bedding must to an extent be somewhat formal, but even in these cases it can possibly be arranged in such a way as to partially relieve the stone work or geometrical designs.

How different in appearance is a bed of subtropical plants. Especially in the south, where a somewhat freer hand may be used than in a more northern place. If it is a matter of choosing a position, one should be selected that is partially shaded and yet free from drip. This is a matter that must have serious consideration, as nothing is so detrimental as drops of water continually falling on perhaps valuable plants. Of all plants for this form of bedding there is none to equal the Cannas. They should have a sunnier position than is usually given for this class of work, and ought to be planted in masses. No idea can be formed of their beauty when planted sparsely or dotted about. When grouped in large masses, however, they are admired for their graceful spikes and bold foliage. The Castor Oil plant (*Ricinus africanus*) is another plant grown largely for subtropical bedding, the purple variety specially being very handsome. The old *Melanthus* is still to the front, its beautiful glaucous foliage making it indispensable, and very useful also are the large growing *Echeverias*, *Coleus*, and various Palms.—W. J. M.

KALOSANTHES.

KALOSANTHES, when well grown, are very attractive and useful plants for either house decorations or the conservatory, and they last a considerable time in full bloom if due attention to watering is given. About the end of July or early in August is a suitable time to propagate them. In taking the cuttings choose those of medium size from two or three year old plants, avoiding those that are inclined to be soft or sappy, as they are seldom satisfactory. Any light sandy soil will do for the cutting pots, which should be large 60's, placing five or six in each, and when they are repotted in spring the plants must not be separated, but be transferred to 32's just as they are, so that when they bloom each pot may have not less than five flower trusses. The cuttings will root easily in a cold frame if kept close and shaded from strong sunshine, but as soon as a few roots are made abundance of air and sun is beneficial. When frosts occur remove them to a shelf in the greenhouse and keep them close to the glass.

During the winter months very little water will be required. This is a special point to be observed, and the best test to apply is to feel the plants with the hand, and if the leaves are limp or inclined to flag water may be given, but not otherwise. The plants will require repotting into 6-inch pots as stated above. The following compost will grow them to perfection (provided the details given are carried out):—Three parts yellow fibrous loam, two parts leaf soil, half-part dried cow manure, with some charcoal and sand added; lime rubble will do equally as well as charcoal, if at hand. Pot the plants firmly, using a potting stick to press the soil round the balls of the plants. It is a good plan to root a few pots of cuttings annually, as plants over three years old may then be discarded.

After the plants have flowered and the cuttings are taken, they should be cut down to within a few inches of the soil, and water withheld from the roots, but the stems ought to be syringed morning and afternoon until growth recommences. Abundance of new shoots are generally made by the old stems, but all should be rubbed off except three. These plants if treated throughout the winter as advised for the cuttings and repotted at the same time—viz., in March, will make handsome plants, and nearly every shoot will flower.

Just before the flowers commence to expand, which will be in June, they should be transferred from the greenhouse to a cold pit; the lights may be kept off entirely except in wet or stormy weather. If no pit or frame is available, stand them outside the house they are grown in, and place inside again if heavy storms are imminent. Kalosanthès are usually free from insect pests, except when grown near plants infested with red spider, and if once a foothold is gained by this pest the plants will soon have a sickly appearance. The growths are always top heavy, and must never be allowed to fall about, as if once crooked it is impossible to tie them up into presentable specimens, so neat green painted sticks should be put to them early.—FOREMAN X.



FRUIT FORCING.

Pines.—*Potting Rooted Suckers.*—When the suckers obtained from the fruiting plants are ready for repotting, it is well to divide the plants into two sets. The strongest should be put in 10 or 11-inch pots as soon as they are well rooted, affording them a position near the glass in a light airy house. The plants so treated will produce a good successional supply of fruit in late summer or early autumn next year. The other plants, suckers from the summer fruiters, winter best in 7 or 8-inch pots, transferring them to larger ones in the spring, which with suckers of Smooth-leaved Cayenne that were started last month will produce a successional supply of Pines through the winter months.

Re-arranging the Plants.—The plants not fruiting will have completed their growth, and should have air liberally for the next six weeks when the temperature exceeds 80°. All well-rooted plants require a bottom heat of 80° to 85°, but recently potted suckers, or those not having the roots well established in the fresh compost, should have the bottom heat maintained at 90°.

Fruiting Plants.—Moderate atmospheric moisture will be necessary for those swelling their fruit, admitting a little air early in the morning, so as to allow of any superfluous moisture escaping before the sun's rays act powerfully upon the fruit. Any fruit it is desired to retard should be moved to a rather cool or shady house, affording an abundance of air.

Strawberries in Pots.—The runners that were layered into the fruiting pots will now be well rooted, and being detached from the parent plants can be stood in a sheltered position on a bed of ashes, affording each plant due space. Any plants layered into small pots or on turves should be potted into the fruiting pots without delay. Placed in 5 or 6-inch pots, according to the size of the plants, they will fill them with roots before the winter, and though not so large as those potted earlier, will give some good fruit, if they are not started before February. Plants potted some time ago, and those layered into the fruiting pots, should be examined, and if making side buds these ought to be removed with a pointed piece of hard wood, so as to throw the vigour into the central crown or bud. Vigorous plants will not require liquid manure, but weakly ones may be supplied with it twice a week. All runners must be removed as they appear, also weeds. If the surface of the soil becomes hard loosen it, especially at the sides of the pots, so as to insure the thorough moistening of the ball. As the plants grow set the pots farther apart, so as to expose the foliage to light.

Vines.—*In Pots for Early Forcing.*—The canes intended for starting early in November should now be completely at rest, the wood thoroughly ripe, the laterals cut close back, and the canes shortened to about 6 feet, more or less, according to the length required for the position they are to occupy and the situation of the plump eyes. If the Vines are kept rather dry at the roots it reduces the tendency to bleeding, or the cuts may be carefully dressed with styptic or knotting. Do not, however, allow the soil to become dust dry, for this causes the roots to shrivel, whilst a very wet condition may induce the decay of the fibre. Keep the Vines in a cool airy house. Later Vines in pots may be placed outdoors to harden the growth and induce rest, the south side of a wall being preferable. If the Vines have to be bought they should now be ordered. The best for early forcing are Early Smyrna or White Frontignan, Foster's Seedling, Black Hamburg and Madresfield Court.

Earliest Forced Planted-out Vines.—Those started from December to January should be pruned early in September or before. It is not necessary to wait until all the leaves are down if the Vines are going to rest, the wood brown and hard, and the leaves turning yellow. The pruning will cause the Vines to rest more quickly and thoroughly. When the leaves are off thoroughly cleanse the house and dress the Vines with a solution of caustic soda and commercial potash, 1 oz. each to a gallon of hot water, and apply at a temperature of 135° with a brush, not lavishly, but just moistening every part of the rods after removing the loose bark. The solution acts well against both fungi and insects. Clear away the old mulching material and the loose surface soil from the border, then supply a top-dressing of fresh turfy loam, and sprinkle on it a good handful per square yard of some approved chemical fertiliser.

Weakly Vines, or those in an unsatisfactory state, will be improved by removing the soil down to the roots, and supplying fresh turfy loam, with an admixture of a sixth of old mortar rubbish, one-twelfth of wood ashes, and a sprinkling of bonemeal (1 per cent.), lifting any convenient roots, and laying them in fresh material within 6 inches of the surface.

Late Grapes.—Continue a night temperature of 65°, and 70° to 75° by day, with 80° to 85° from sun, until the Grapes are perfectly ripe, ventilating freely, and keeping lateral growths closely pinched, a warm atmosphere, with a free circulation of air, being essential to thorough ripening. Laterals allowed to grow only excite root action, and this encourages late growth. In most cases Vines do not require much water after colouring commences, as it is then a question of transference and appropriation of matter already acquired; still water is needed, and must be supplied as required to the border.

Young Vines.—These generally make a strong growth, and are con-

sequently late in ripening. Assist such with fire heat, maintaining a minimum temperature of 65°, and a maximum of 75° from fire heat, running up to 85° or 90° from sun heat, accompanying the artificial heat with a little top and bottom ventilation, so as to insure a circulation, increasing it proportionately with the sun heat. Laterals also should be kept well in hand, not, however, pinching them so close as to start the principal buds.

THE KITCHEN GARDEN.

Cabbage.—If the earliest raised plants are thick in the beds, thin early and freely, pricking the thinnings into nursery beds of fine soil, watering and shading if necessary. Successful market growers systematically prick out all their plants that are to stand through the winter, moving them a second time having the effect of keeping them sturdy, a rapid autumn growth rendering Cabbage more susceptible of injury from frosts. In private gardens, where far less manure is dug-in, and in particular where Winter Cabbage (moved direct from the seed beds) follows spring-sown Onions, without digging or otherwise preparing the ground beyond hoeing and cleaning, there is less likelihood of the plants making much progress above ground before midwinter, and a serviceable crop usually results. More Cabbage seed may yet be sown broadcast where the plants are to remain all the winter.

Winter Green Vegetables.—Comparatively little planting of Borecole, Broccoli, and Savoys has yet been done, and many of those planted have come to a standstill. Nor have frequent waterings greatly improved matters, the plants being badly infested by aphides and fleas. This points to a scarcity of green vegetables next winter and spring, which will amount to a certainty if wintry weather set in early. All that are available should be planted out on the first favourable opportunity. Legginess ought to be no bar to this late planting. Instead, however, of sinking the stems to their full depth, form sloping trenches as the ground is dug. In these the plants should be laid with their tops just above ground. A little manure may be distributed about the roots, some soil placed on this, making it firm with the foot, and if the ground is dry, a good watering given before more soil is thrown over it and a fresh trench for the next row is made. Borecole, Brussels Sprouts, sprouting and other Broccoli, and Savoys may all be planted more thickly than usual, as they will not attain to a great size.

Sowing Brussels Sprouts.—Those with the convenience of warm houses and frames can raise all the Brussels Sprouts plants they require in February and March, but where large numbers of plants are required and facilities for raising them under glass are limited, it is a good plan to sow seed in the open and treat the plants similarly to late raised Cabbage. They will prove quite as hardy. Sprouting Broccoli should also be raised in the autumn. If either these or the Brussels Sprouts are somewhat thick in the seed beds, prick out a portion of them 4 inches apart each way.

Sowing Lettuce.—Since the introduction of extra quick hearting Cabbage Lettuces there is less need to take so much trouble in wintering a number of hardy varieties. Now, however, is a good time to sow seed of Black-seeded Brown Cos, Hick's Hardy Green Cos, Hammersmith Green, and All the Year Round Cabbage Lettuces with a view to having abundance for hearting-in next spring. Prepare moderately large seed beds, a border sheltered from the coldest winds answering best. Water if dry, and then sow the seed thinly broadcast, covering with half an inch of sifted soil.

Spinach.—The earliest sowings of Winter Spinach are not a success, the plants coming up in patches, the rest of the seed not having had enough moisture to induce germination. At the same time it is the early plants that usually prove the most productive of large leaves, and unless the rows are very scanty it is advisable to leave what plants there are and sow more seed in drills drawn where the blanks occur. The thinning of plants ought as yet to be light, as there may be losses to deplore. In showery weather sow soot among the rows, and stir it in with Dutch hoes, this having a deterrent effect upon slugs and grubs and hastening the growth of the plants.

Tomatoes.—Tomatoes are ripening early on plants against walls and quite in the open. Birds have suddenly acquired a taste for them. Gathering the fruit when only about half ripe militates against good quality, but has to be done this season. When showery weather sets in the more advanced fruit will crack badly, and the best preventive of this is also early gathering, ripening the fruit in a warm dry room. Large quantities should be laid in thin heaps and covered with paper, this saving the footstalks somewhat, and promoting even colouring. Trimming off all the lower leaves, so as to leave little else but stalks and fruit, is a great mistake. It completely stops the swelling of the later fruit, and the rest are lighter, softer, and poorer in quality than those more naturally treated. All side or superfluous shoots ought to be removed whenever they assert themselves, and the plants early topped beyond the third or fourth bunch of flower, while the older leaves overhanging the most forward fruit should be reduced to about half their original size, so as to admit more sun.

GAURA LINDHEIMERI.—This is a fine herbaceous plant, and useful in that it keeps up a display of its pretty bright blossoms over a very long season. After the flowers on the upper part of the spikes are over numerous other short spikes appear below. The colour of the flower is a pale rose, the contour of the spikes a little like that of the Fraxinella. G. Lindheimeri delight in a rich deep root-run, but the soil must not be heavy or cold. Light porous loam that does not crack badly in hot summer weather suits it best. The plant is most easily propagated by seeds, is a native of Texas, and quite hardy.—C. H.

THE BEE-KEEPER.

CLOSE-DRIVING OF BEES.

THERE are numerous bee-keepers throughout the country who still adhere to the straw skeps for obtaining a surplus of honey. The time has now arrived for driving the bees, or removing them in some manner, so that they are not destroyed. If this operation is left till late in the autumn there will be less honey than if carried out at the present time. We have on several occasions advocated taking the honey as soon as possible after the honey flow is over, as at that time the colonies are as a rule of great strength, being composed chiefly of old bees which in a few weeks will die, owing to the amount of work they have done during the bright days of summer. They are consequently of little use to the bee-keeper, and the honey they consume will be wasted.

Driving bees may be successfully carried out without any previous experience in the work. A little practice, however, will make the novice an expert. Those who have not previously tried the experiment may first try close-driving. This is done by inverting the skep containing the bees and honey, and placing an empty skep over the top. Before removing the hive from its stand a puff or two of smoke should be blown into the entrance, at the same time rapping the hive smartly with the hand; this will have the effect of frightening the bees, causing them to fill their honey sacks with honey. They will then be good tempered, and may be handled with impunity.

As soon as the empty hive has been placed over the one inverted, rap the bottom hive with the hand. The bees will at once run up into the empty skep. When it is found that the majority of the bees have left the combs, the skep may be removed a short distance and the combs taken, the few remaining bees being brushed off into the hive. After the skep has been cleared of its contents, the bees may be added to those already driven into the empty skep. The disadvantage of close driving is, there is not the opportunity of seeing if the bees are leaving their combs freely, or if the queen has left the hive.

OPEN DRIVING.

Open driving is much preferred, and there is really little danger of being stung if the operator has only the nerve to practise it. Commence by causing the bees to fill their honey sacks, allowing them about five minutes to settle down after being disturbed. Have ready some driving irons, or three pieces of stout wire about 1 foot in length. One should be quite straight, and the other two have about 1 inch at each end turned at right angles. The straight piece is used to fasten the edge of the empty skep to the one containing the bees and honey. The front of the empty skep is then lifted about 10 inches, and the two wires with the ends turned are used to form a hinge on each side of the two skeps by pushing the points into each skep, and thus holding them together.

The operator will thus have a full view of the interior of both of the skeps if he places himself directly in front of them. Rap the lower hive as advised above, and the bees will run into the empty skep at a rapid rate. Continue the rapping at the sides and back of the hive, and there will be little difficulty in getting them into the empty skep. Should they not be inclined to leave their combs a puff or two of smoke will cause them to do so. As they run up keep a sharp look out for the queen, as it is an advantage to know she is safe with the driven bees, as if left in the parent hive there is a danger of her being crushed when removing the combs.

BUMPING BEES.

During the past week we have taken the bees and honey from upwards of a dozen skeps by the system known as "bumping." Much less time is required than driving, but some practice is necessary to be an adept at taking bees in this manner.

Commence operations as for driving. Lift the skep from its stand and remove the cross-sticks, if any. Then take hold of the skep with both hands and bump it sharply on the ground, first to one side and then to the other. This will cause the combs to break off. Lift each comb out of the hive separately, and brush the bees off into an empty skep with a large feather or a duck's wing. The combs may be placed on a dish and be removed under cover as soon as possible out of the way of robber bees from the other hives. A vessel containing water should be kept conveniently to hand, as by dipping the feather or wing in water the bees will not adhere as they would if sticky with honey. In driving or bumping bees at this season it is advisable to remove them a short distance from the other stocks to prevent robbing. —AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Carnations from Cuttings (Novice).—You can root any of the common border Carnations from cuttings, inserting them now in a glazed frame or within a bottomless box, which must be closely covered with panes of glass. They will not root readily if exposed to the weather, and allowed to flag in hot sunshine. All the best varieties are preferably propagated by layering, as it is the surest way, and does not need the shade and confinement necessary for cuttings. The sooner cuttings are inserted now the better, so that they may get callused at the base before winter, through which they will pass safely with the simple protection of a glass covering, and you will have good plants, perhaps equal to layered ones. The old Clove Carnation is readily propagated by cuttings.

Millipedes in a Garden (G. H. F.).—The examples sent represent a small millipede (*Julus pulchellus*). Its presence in such numbers suggests that either the land needs draining or is rich in vegetable matter, and requires a corrective in the form of lime. This may be given as soon as cleared of the crops, or distributed amongst those that are permanent, such as Strawberries, in the freshly slaked state, at the rate of a bushel per square rod, choosing dry weather, and merely pointing it in with a fork. Lime will sink far enough without burying it deeply in the first instance. The lime will convert the humus into nitrate of lime, hasten the decay of the vegetable substances, and prove deterrent, if not destructive, to the millipedes. Gas lime will either kill or drive them away. It cannot, however, be applied safely to land under crop. Ground cleared of its crops should be dressed with it, using a peck per rod, distributed evenly on the surface, and allowing it to remain a few weeks before being pointed in.

Points of a Show Pansy (Amateur).—The following are given by Glenn as the properties of a Show Pansy, and you can judge for yourself whether your flower is within the pale or not. 1. It should be round, flat, and very smooth at the edge, every notch, or serrature, or unevenness, being a blemish. 2. The petals should be thick, and of a rich velvety texture, standing out firm and flat without support. 3. Whatever may be the colours, the ground colour of the three lower petals should be alike; whether it be white, yellow, straw colour, plain, fringed, or blotched, there should not in these three petals be a shade difference in the principal colour. 4. Whatever may be the character of the marks or darker pencillings on the ground colour, they should be bright, dense, distinct, and retain their character, without running or flushing, or mixing with the ground colour; and the white, yellow, or straw colour should be pure. 5. The two upper petals should be perfectly uniform, whether dark or light, or fringed, or blotched. The two petals immediately under them should be alike; the lower petal, as before observed, must have the same ground colour and character as the two above it; and the pencilling or marking of the eye in the three lower petals must not break through to the edges. 6. In size there is a distinct point, when coarseness does not accompany it; in other words, if flowers are equal in other respects, the larger is the better, but no flower should be shown under 1½ inch across. Ragged edges, crumpled petals, indentures on the petal, indistinct markings or pencillings, and flushed or run colours, are great blemishes; but if there be one ground colour to the lower petal and another colour to the side ones, or if there are two shades of ground colour at all, it is not a show flower, though many such are improperly tolerated; the yellow within the eye is not considered ground colour.

Propagating Myrtles (W. W. W.).—Myrtles are of easy culture in a compost of sandy loam and leaf soil, say three parts of the first and one of the latter. They are readily increased by cuttings of the current year's growths after they become firm or partially ripened, placing them in pots in sandy soil in a close frame, or covered with a bell-glass, shading from bright sun until rooted. The shoots of outdoor plants will now be sufficiently ripened for insertion. The cuttings must be wintered in a house from which frost is excluded, and in spring they may be placed singly in small pots, and grown in a greenhouse, standing the plants outdoors in summer.

Vallota purpurea (Idem).—This useful and handsome bulbous plant may be potted early in spring, say in February; but it is not desirable to give a large shift or repot the plants too frequently. We pot ours every second or third year, keeping them under rather than over potted, and they flower splendidly in late August, through September into October. They require a light situation, so as to secure a sturdy, thoroughly solidified growth, and they will then throw up two flower scapes from the strongest bulbs. A compost of three parts fibrous loam, light rather than heavy, and one part leaf soil, with a sixth of sharp sand is suitable. Good drainage is necessary, as the plants require abundant supplies of water when making their growth, which is in the early part of the year.

Young Larch Trees Dying (J. S. B.).—The characteristics presented by the specimens are those of the Larch disease, as caused by the fungus named *Dasycephala (Peziza) calycina*, syn. *P. Wilkommii*. It is very destructive to young Larch trees, and no wonder, as in many cases the diseased trees are left in a half dead state to produce spores, which they do plentifully on the stems near the ground where favoured by long dead grass or other herbage. We have known three plantations of Larch lost in succession, but the fourth succeeded, simply by cutting the grass about each plant in the latter part of summer, and thus, with the air circulating around the stems and through the plantation, what spores were produced had less chance to germinate. Of course, all diseased trees were removed, and a close scrutiny made of the stems for canker spots, and the affected trees cleared away before the ascophores appeared through the dead bark in the winter and early spring months. This was found the only plan successful with the disease, the air currents preventing the spread of the disease from affected to healthy trees. In another plantation known to us Larches have died out twice within the last ten years; it has been patched frequently, but the trees canker on their stems, and those surrounded by rough grass, have produced ascophores, and so the scourge was aided in its destructive work. You do not say whether the ground in your plantation has been kept clean or not.

Planting Gardenias in Beds (Journymen).—Certainly the plants will succeed admirably in beds. A space in the centre of the house enclosed with a single brick wall would be the best position for them. In preparing the bed see that the bottom is well drained with 1 foot of rough stone or brick rubble. Cover this with partly decayed turves or fibrous portions of peat to keep the soil from washing into the drainage and choking it. The depth of prepared compost may be 2 feet unless very large specimens are intended, when 3 feet will not be too much. Equal portions of fibrous peat and loam, adding a little thoroughly decayed cow manure, also sand and charcoal to make the compost porous, will form a suitable rooting medium. A space 2 feet to 2 feet 6 inches wide would admit of one row of plants, arranging them at such distances apart that sufficient room is allowed for extension. They can, however, be kept within bounds by pruning. During the summer a temperature between 65° and 75° will suit them, with frequent syringings to keep down insects and encourage growth. Plenty of water must be afforded to the roots during the period of active growth and until the flower buds show, when less heat, moisture, and water at the roots will be required to give the plants a slight rest and enable the wood to ripen. The temperature should, however, never fall below 55° in the winter. When a certain amount of rest has been secured the plants will respond quickly to a little extra heat and moisture to enable the flower buds to expand.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*F. V. W.*).—1, *Staphylea pinnata*; 2, *Illecebrum floridanum*; 3, *Lonicera aureo-reticulata*; 4, *Escallonia macrantha*. (*W. W. B.*).—1, *Rhus cotinus*; 2, *Kerria japonica*; 3, *Spiraea callosa*; 4, *Veronica spicata*; 5, *Hydrangea Thomas Hogg*; 6, *H. paniculata*. (*T. M. L.*).—1, *Verbascum Blatteria*; 2, *Tropeolum speciosum*; 3, *Hypericum ovaliformis*. (*C. G. M.*).—1, *Daphne laureola*; 2, *Spiraea bernalda*; 3, *Erica codonodes*; 4, *Regonia Evansiana*; 5, *Monarda didyma*; 6, *Harpallium rigidum* Miss Melish. (*Fern Lover*).—1, *Glauchesia dichotoma*; 2, *Doodia aspera*; 3, *Doryopteris palmata*; 4, *Platyloma rotundifolia*; 5, *Notholaena Echloniana*; 6, *Polypodium aureum*. (*J. C.*).—*Trachelium caeruleum*.

TRADE CATALOGUES RECEIVED.

Dicksons & Co., 1, Waterloo Place, Edinburgh.—*Flower Roots*.
E. P. Dixon & Sons, Hull.—*Bulbs*.

COVENT GARDEN MARKET.—AUGUST 23RD.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2 0	3 0	Nectarines, per doz.	8 0	9 0
Currants, black, per sieve	6 0	7 0	Peaches, per doz.	8 0	9 0
Figs, green, per doz.	1 0	3 0	Pears, Californian, case...	8 0	6 0
Grapes, black	0 6	8 0	" French Williams',		
Greengages, box of 40 to 48	1 3	2 3	36 to 56 in a case	4 0	5 0
" French, sieve	5 0	8 0	Pines, St. Michael's, each	8 0	6 0
Lemons, case	14 0	20 0	Plums, English, per sieve	6 0	7 0
Melons each	0 6	1 6	" Californian, case...	4 0	8 0
" Rock	1 8	1 9			

Trade very quiet.

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1 0	2 0	Lettuce, doz.	1 8	2 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb.	0 6	1 0
Beans, ½ sieve	2 6	3 6	Mustard and Cress, punnet	0 2	0 0
" Scarlet, sieve	2 6	3 0	Onions, bag, about 1 cwt.	4 0	4 6
Beet, Red, doz.	0 6	0 0	Parsley, doz. bunches	2 0	4 0
Cabbages, per tally ...	7 0	0 0	Peas, per bushel	6 0	8 0
Carrots, per doz.	2 0	8 0	Potatoes, cwt.	2 0	5 0
Cauliflowers, doz.	2 0	3 0	Shallots, lb.	0 8	0 0
Celery, n-w, per bundle	1 9	0 0	Spinach, per bushel	0 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	4 6
Endive, doz.	1 6	2 0	Turnips, bunch...	0 8	0 4
Herbs, bunch	0 8	0 0	Vegetable Marrows, doz.	1 0	1 6
Leeks, bunch	0 2	0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	3 0	4 0	Marguerites, doz. bnchs.	3 0	4 0
Asparagus, Fern, bunch...	2 0	2 6	Mignonette, doz. bunches	4 0	6 0
Carnations, 12 blooms ...	1 6	2 6	Montbretia, per bunch	1 0	1 6
Eucharis, doz.	4 0	6 0	Orchids, var., doz. blooms	3 0	18 0
Gardenias, doz.	1 6	2 6	Pelargonium, doz. bnchs.	4 0	6 0
Geranium, scarlet, doz.			Roses (indoor), doz.	2 0	8 0
bnchs.	4 0	6 0	" Red, doz.	1 0	2 0
Lilium Harrisii, 12 blooms	8 0	4 0	" Tea, white, doz.	1 6	2 6
" longiflorum, 12 blooms	4 0	6 0	" Yellow, doz. (Perles)	2 0	8 0
Lily of the Valley, 12 sprays	0 0	15 0	" Safrano, doz.	2 0	2 6
Maidenhair Fern, doz.			Smilax, bunch	8 0	4 0
bnchs.	4 0	6 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	86 0	Foliage plants, var., each	1 0	5 0
Aspidistra, doz.	18 0	86 0	Fuchsias, doz.	4 0	6 0
Aspidistra, specimen	15 0	20 0	Heliotropes, doz.	4 0	6 0
Boronia	12 0	18 0	Hydrangeas	6 0	10 0
Oretons, doz.	18 0	80 0	Lilium Harrisii, doz.	12 0	18 0
Dracena, var., doz.	12 0	80 0	Lycopodiums, doz.	3 0	4 0
Dracena viridis, doz.	9 0	18 0	Marguerite Daisy, doz.	6 0	8 0
Erica various, doz.	80 0	60 0	Myrtles, doz.	6 0	9 0
Euonymus, var., doz.	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz.	4 0	18 0	" specimens ...	21 0	68 0
Ferns, var., doz.	4 0	18 0	Pelargonium, scarlet, doz.	4 0	6 0
" small, 100 ...	4 0	8 0	Stocks	4 0	6 0
Ficus elastica, each ...	1 6	7 6			

Bedding out plants in variety from 8s. doz.



THE POULTRY SAVANTS AT READING.

If ever there was a subject that needed the full light of day it is the poultry question. Do not, dear reader, mistake our meaning. It is impossible to take up any paper or magazine appertaining to rural matters without coming across article after article bearing on this subject. Everybody thinks he knows something about fowls, that his knowledge is unique; and the most unpractical people have the most to say.

Poultry farming has been thought by the many to be a sure and

quick road to affluence. Given a small capital, a bit of land, and a little irregular attendance, and the thing would be done. It is a great reproach to us as a nation that we import so many eggs. Well, that may be so, but would the foreigner send us his eggs if he could meet a better market at home? He can raise eggs and pay carriage and make a profit where we cannot. We cannot afford to sell our eggs at the price that satisfies him.

As a rule we find that large undertakings pay best, amalgamation in most things is desirable; but those who have tried to farm poultry on a large scale have met with woeful disappointment. Poultry is live stock, and live stock eminently susceptible to vitiated surroundings. People have got an idea that given a run it does not matter how that run may be crowded. No farmer can carry more than a certain number of sheep per acre; if he exceeds that number Nature steps in, restores the balance by removing by death the extra heads. It has been tried over and over again. Land gets tainted, and once tainted is as deadly poison.

It is just the same with fowls; the numbers must be kept strictly limited; the ground must be constantly changed, or the results are painful. There is not a more unpleasant spectacle than an overcrowded fowl-yard. Keep fowls by all means, but give them plenty of room. If you occupy a large holding you will have no difficulty; you must divide your stock in small detachments, and take them out to the fields in movable huts. This necessitates more labour, but it insures good health and prolific birds. Stock rather under than over; keep as few as possible on the homestead. There is on and about farm premises a fair amount of food which would be wasted if it were not for the fowls, but it is very easy to over-estimate that quantity. Another well-known fallacy is that anything will do for fowls. But the anything must be something, and that something sound and good of its kind. The fowls that are afield stand a better chance of what one might call natural food than the fowls at home.

On grass land there are insects, worms and grubs innumerable, and no fowl can keep in good health without exercise, and the hunting down of these things forms capital exercise. There is a habit we would much deprecate, and that is the custom of feeding poultry day by day in exactly the same place, and that place is as near the house where the grain sack is kept as possible. It is only an interested person who will be at the trouble of carrying the daily grain rations further afield.

You would not like a dirty tablecloth week after week, and your habits are cleanly. If the feeding is on grass, the benefit is twofold; the fowls are fed wholesomely, and the land is more equally tilled. Fowl manure is of value, but it wants spreading. Why not let the fowls do the spreading themselves? It is no use keeping old favourites—the productive time of fowls is short. When a fowl ceases to contribute her proper quota to the egg basket, remove by "happy despatch."

If fowls are to thrive, not only must they be uncrowded in their runs, fed on good food, but they must be personally clean—that is, free from parasites. No animal can thrive when its skin is in a constant state of irritation, and a properly managed poultry yard should be practically free from such nuisances. Plenty of limewash, plenty of dust baths, plenty of harmless disinfecting powders. How a fowl does enjoy a good scratch in a dust hole! A fowl is not naturally dirty; poor things, they often have no chance at all for a good cleansing; they do not ask for anything costly, and they well repay you for your extra trouble.

It is no use looking for Figs on Thistles, and it is no use trying to get good fowls if your original stock is not of the right kind. Something healthy, something vigorous. One man swears by one breed, one by another, and some of the best cross-bred are the boast of another. Early maturity, either for the market or as egg producers, is what must be aimed at, it does not pay to have stock too long on hand. Small profits and quick returns. As soon as a fowl is marketable let it go. We do not say there are not some secrets about dressing the said fowls. It is wonderful what a little quite honest manipulation will do, and a bird that looks very leggy and shapeless when the feathers

are off, may, carefully trussed, be a very presentable creature. It is quite allowable to make the best of the raw material, but it is an art.

Perhaps of all kinds of poultry ducks bring the quickest returns. Get them once fairly on their legs, they take so kindly to food that they are soon ready as food for you. We have always thought ducklings paid; the more advanced birds we are very doubtful about.

If anyone thinks poultry management is child's play, we should like to see them fairly set to work. The work is pleasant, but it is constant, and a little judgment must be brought to bear. It is not work you can take up one day and put down the next, and it is not work that can be trusted to a lad.

There is another point about which people make great mistakes. They are, in choosing a sitting of eggs for hatching, so apt to pick out the biggest. Our experience is that this is a delusion; a medium-sized egg is much more likely to be fertile than a large one, and all eggs for hatching purposes should be absolutely fresh.

There is money to be made out of pure fancy breeds; but this is a monopoly in the hands of the few, and these few are experts. One last word about food. Shun Indian corn except in the smallest quantities, change the diet as much as possible, do not forget the grit, and see that the water supply is both clean and plentiful. These are just a few notes from Reading, not new ideas, but old ones that want constantly hammering into the heads of all poultry amateurs.

WORK ON THE HOME FARM.

At last have come some heavy showers, that may be in time to save the root crop. For many days, to all appearance, the plants had "laid them down to die." A serious question for the farmer.

If the roots and pastures are suffering, it has been a fine time for harvest work—bright sunshine and pleasant breezes; and a good deal of Wheat is safely gathered in. Nothing will tend more to remove the flinty nature of this year's Barley crop than a good rain. The colour may be a little "off," but the quality will be vastly improved. Oats cannot be a good crop this year. All reports confirm our views, that the supply will be short; the crops are cutting up so light. We have seen two threshed samples. The grain was good and heavy, but the yield deficient—not more than six quarters, where there ought to have been quite eight.

Some of the Turnips are past praying for; nine out of every ten look blue and sickly, the tap root is entirely eaten away with grubs, and they pull up at a touch. There are only a few side rootlets that are endeavouring to keep the plant alive. Many Swedes are to be seen with bushy tops—four or five heads where there ought only to be one. This might arise from the use of cheap seed, but the cases are too many for that theory, and we must look for the cause elsewhere. Probably an industrious insect has injured the original lead.

As to Potatoes, rain is needed for them badly; all the late varieties must be small unless moisture come soon and in great quantity; the ridges are about dried through.

No wonder butter is getting dearer, the cows are almost entirely dependent on other food than the pasture affords. Those cowkeepers who have a few acres of spring Tares are happy men, nothing assists the flow of milk better. Failing them there is the haystack, but it is early days to begin the hay. Where there is a second Clover crop the difficulty of cow keep is solved. If there is plenty to mow, mow it, otherwise the cows must graze. Care must be taken that cows do not overeat at first, or it is quite possible they may die through their gluttony.

Now is a critical time in the life history of the lambs; they do not exactly require change of air, but they do require as much change of pasture as possible. It is not a bad plan to let them graze on the roadsides.

WOMEN AS AGRICULTURISTS.—Mrs. Aleo Tweedie, who took an active part in the organisation of the International Women's Congress, has been interviewed by the "Church Family Newspaper" on the subject of women as agriculturists. She said:—"When you come to consider that we import from abroad some £23,000,000 worth of dairy produce a year, it must be evident that there is an immense scope for women's labour in this country to produce what at present is supplied to us by the foreigner. In eggs and poultry alone we import some £5,000,000 worth a year. Denmark makes nearly nine millions a year out of England from butter, bacon, and eggs, and now Australia is becoming a serious rival to Denmark, notwithstanding that her butter has to accomplish a voyage of 12,000 miles, and her ships have to navigate the Red Sea and Indian Ocean at the hottest time of the year."

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Journal of Horticulture.

THURSDAY, AUGUST 31, 1899.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 8/9. Editorial communications must be addressed to S. Rees, Hill Rd., Wandsworth, S.W.

DUTCH BULBS.

IT may safely be presumed that the time is very far distant when we shall be able to dispense with bulbous flowers for the embellishment of our conservatories, greenhouses, rooms, and gardens in the spring. They come in the dark days of winter with a brightness and a delicious fragrance, and they continue to perform their excellent share of beauty until the dreariness of cold and damp has given place to the warm sunshine of early summer days. Let us hope that fickle fashion will never decree that they are beyond the pale of recognition, as horticulture and horticulturists will be the losers.

One is forcibly reminded by the shoals of catalogues to which almost every post adds its quota that the period for the procuring of the stock of bulbs is with us. Some of these lists are modest little booklets, while others are ornate publications that may well be termed *edition de luxe*. All of these comprise lists of varieties for the garden and for pot culture, and each includes bulbs that may be brought within the scope of these notes, but which, nevertheless, have never been to the land of dykes and windmills. Some have come from Japan, others from the Cape and the Levant, while the south of France, Spain, and the Channel Islands play no mean part in the general supply.

Time was when beyond Snowdrops, and perhaps one or two other kinds in insignificant numbers, our own native soil was not considered suited to the peculiar requirements of Hyacinths, Tulips, Crocuses, Narcissi, and Gladioli. But now, though we cannot lay claim to the production of all those referred to, it may be said that the two latter are now essentially home-grown. This is particularly the case in respect of the Narcissi, of which we get excellent stocks from almost all quarters of England, and also Ireland, though in a lesser degree. It is pleasant to be able to add that Lincolnshire Daffodils are second to none.

The area over which Gladioli are grown for commerce is not so wide, for the simple reason that beautiful as they unquestionably are, they have not the vogue that is accorded to the Narcissi.

This being so, their home production is confined to a limited number of growers, who devote their energies towards superior sorts, and leave the foreigner to produce those that are required in hundreds of thousands. Then it is only fair to add that at least one firm has undertaken the production of Tulips at home, and the flowers which have been exhibited from these bulbs are quite equal, if not superior to the flowers from the more familiar Dutch stocks.

Not only have these spring flowering bulbous plants diversity of form, size, and colour, with frequently delightful fragrance, but they also possess the equally desirable attributes of thriving in almost any soil and in town as well as country. As a matter of fact they never call for more admiration than when they grace the small garden, or are the principal occupants of the very obviously home-built greenhouse. The tender care that has been bestowed upon them is amply rewarded, though the spikes may not be so big or the colour so bright as when grown under more congenial conditions. Look, too, at the beds in the London and provincial public parks, which delight thousands of visitors year by year. Could any other flower be brought forward that with similar attention would produce an equal display?

Notwithstanding the fact that these plants will flourish in well nigh any soil or situation, they repay all the care that can be bestowed on them. If they are to be grown in beds, and these are carefully prepared previous to planting, the spikes of flowers will be considerably larger, and the same may be said in regard to those cultivated in pots. It is not as a rule in the direction of enrichment by the aid of manures that is required, but rather thorough mechanical working with the addition of quite decomposed manure, if the ground be very poor. The disadvantage that accrues to the use of much manure lies in the frequent splitting of the bulb into several medium spikes instead of the whole energy of the bulb being concentrated into one flower of super-excellence. With plants in pots the same difficulty arises, as I have known bulbs absolutely refuse to emit roots when they were in an over-rich medium. One large collection of all kinds of bulbs proved a failure from an error that was made when the compost was prepared.

So far as my own personal experience guides me, and also from close observations of the practices of my friends, both professional and amateur, the best results are insured by the proper working of soil that was manured for the previous occupants, the careful planting of sound bulbs, and the subsequent mulching with short manure. This practice I know to be objected to in many establishments, and have not the slightest doubt it would be in my case did I not cover the manure with a little fine soil, or on occasions I have employed cocoa-nut fibre refuse for the same purpose. There is nothing unsightly under these circumstances, and the soil is stored with food that will be readily available when the roots are in condition to imbibe it; while there is no tendency towards forcing, as is the case when rich manure is added to the soil prior to planting.

When dealing with bulbs in pots the same principles hold good, but they are arrived at by a slightly different route. A good soil is used at the outset with perhaps a suspicion of artificial food incorporated. Instead, however, of top-dressing, the stimulants when required are applied in the form of liquids made from soot, guano, and natural manures alternately, and it is surprising how a change of diet is appreciated. Plants quickly become satiated with one kind of food, and make no progress until a corrective application in the form of a different stimulant is applied. It has long been my opinion that too much reliance is placed on one form of diet, and that with all plants the best results follow the system of procedure that embodies judicious changes.

Beyond the planting of bulbs in beds and in pots, we have the third system—namely, placing in grass. Beautiful as is a bed of Narcissi or a collection in pots, the flowers thus never approach the charm of those that raise their nodding flowers from a carpet of grass. And the same applies to practically all kinds of hardy bulbs. Why they are not planted literally in millions is difficult to conceive, as they are cheap to purchase, easy to plant, and are to all intents and purposes perennial. Not that I would go to the other extreme and

plant every square yard of the lawns with bulbs. By no means, as I do not hold with this for a moment, because in nine cases out of ten the grass must be mown before the foliage of the bulbs is dead, and the latter are prejudiced for future seasons, while if mowing is postponed for the sake of the bulbs, then the grass and the general appearance of the lawns both suffer.

If they are what may be termed injudiciously utilised, then they lose in effect and the appreciation of observers. For mounds and dells, wilderness gardens, not too conspicuous corners of lawns, beneath trees, and indeed in every situation where the dying foliage amidst the uncut grass is not liable to become an eyesore, there ought bulbs to be planted. Comparatively low priced ones may be procured for the purpose, and every bulb that has been flowered in pot or bed must be accorded a position in the grass. They will then flower year by year, and as the clumps increase and multiply the display will become more and more attractive every season. I have visited gardens where by constantly planting previously flowered bulbs the spring beauty has been improved 50 per cent., and that without the purchase of a single bulb for this specific purpose.

As with those that are placed in beds, so with the stock to go beneath the turves, some varieties are far more suitable than others; indeed, for the latter purpose especially I have seen some that were really not worth the planting. Then, too, there can be little or no doubt but that soil and situation have a marked effect on eventual results, so that, with the exception of some that are known to flourish everywhere, it becomes a matter of learning by individual experience; or if the practice be preferred, the selection, as with those for pots and beds, can safely be left in the hands of the vendors, who always strive to do their best to exactly meet the requirements of customers.

Speaking of leaving the selection of bulbs to the merchants reminds me of one of my objects in writing these notes, namely, to order early. Many purchasers postpone the despatch of their orders until they are positively waiting to pot or plant, as the case may be, and as they do not receive the goods immediately, they promptly condemn the seedsmen. This should not be, as the latter are anxious to fulfil the orders with the utmost promptitude, and work late hours with that object, but they are bound to get behind when the orders arrive in heavy batches, as is too often the case. The consequence is that the purchaser must wait, as the seedsmen, as a rule, endeavour to execute the orders strictly in rotation of date of receipt.

To obviate this, write early. The catalogues and order sheets are now before you, and the selection can soon be made and the order despatched. This is put in hand by the vendor, and can be filled with care and expedition. The purchaser thus gains the advantage of having the bulbs ready for the moment when they are required, and furthermore, may be sure that "the early bird catches the worm" in the form of the best bulbs, notwithstanding the assertions that they are never picked. They may not be, but with no rush the men have more time to count, and consequently notice a bulb that appears slightly inferior, which they promptly replace into stock. Watch them later, however, when they are working thirteen or more hours a day, and beyond positively bad bulbs, the fives and tens are counted with a celerity that renders close examination beyond the region of possibility.
—G. H. F.

NOTES FROM IRELAND.

THE passing summer will, perhaps, be more remarkable for a violent electric disturbance which occurred in the early hours of Sunday, August 6th, than for superabundant returns of garden or farm produce. Rarely, indeed, is the seaboard of Dublin visited by a storm of such intensity, accompanied, as it was, by a tropical deluge which stripped many roads and avenues to the bone. Such rains, even should rain be wanted, are only qualified blessings, for in contradistinction to those which fall like "the gentle dew from heaven," the results in a few hours after were a caked and crusted surface of the soil over which the water had run rather than penetrated. However, the summer has, on the whole, been summer-like, for since the breaking-up of a three weeks spell of drought at the end of June heat and moisture have generally prevailed. Prior to that change a great deal of first-crop hay was saved over the area of County Dublin, and although heavier swaths were gained by waiting, haymaking was not only troublesome but unsatisfactory, quantity rather than quality characterising the hay harvest of 1899.

The shortcomings of the season are, needless to say, looked for among the fruit producers. What matter if beds and borders are ablaze with a wealth and beauty of bloom, and seldom has a finer display been in evidence, or the supply of vegetables good and abundant, which it is, fruit crops are the standard by which the merits and demerits of the gardening year are gauged. Granted that it is so, then, I fear, the character of 1899 in the Green Isle will be shady, for although small fruits generally have been plentiful, Apples and Pears are in many places conspicuous by their absence. Particularly is this the case farther inland where spring frosts nipped "the darling buds of May." Disappointments and consolations in the garden, nevertheless, go hand in hand. Cut flowers being in great demand, we rejoice at present in quantity and quality, which leaves little to be desired. Sunflowers of perennial and annual kinds, the warm glow of thousands of *Montbretias en masse*, and a host of things attractive and useful enliven the garden.

Just now we are exultant over a goodly patch of *Lobelia cardinalis fulgens*, the taller spikes of which have exceeded 5 feet in height. They form a glorious bit of dazzling colour, unique in its way, and with the intense blue of *Salvia patens* we have two colours unrivalled in the wealth of Flora. These bits of brightness give colour to the creed that self colours are the most satisfying. Sweet Peas are, and have been for a long time, charming. How infinitely superior are the newer named varieties, and sown thinly in pots, afterwards planted out as single clumps through the borders, they are grateful and comforting for decorative purposes the season through! Could our hybridisers invest them with the singular beauty of Lord Anson's Pea by transferring that bit of heaven's blue to the Sweet Pea proper, there would, one thinks, be little more to accomplish in that direction. At present one is neither happy without a few patches of Lord Anson's Pea nor with it, its beauty being of the briefest duration, owing to its seeding propensity being undisturbed by cutting, for which, indeed, it does not commend itself.

Gladioli, hybrids of *gandavensis*, have been in flower since the middle of July, and these, with a mixture of *Lemoine's* varieties amongst them, are duly appreciated for all purposes. These were planted late in March, and then were not moving, and for some time after coming through did not look quite happy, which tempted a trial of nitrate of soda upon them. The effect of the nitrate is, perhaps, more noticeable now than previously in stout stems, dark vigorous foliage, and many spikes which have escaped the flower-basket measure 30 inches from the first flower which opened to the last which lingers. Nothing could be more useful, and with a goodly planting, the season extends from midsummer till winter is upon us. Some beds of *G. Colvillei* and its white variety have not done well, the foliage dying prematurely; on examination the newly formed corms are found to be diseased, although the magnifier reveals no form of animal life. This is disappointing, for as a permanent plant this pretty *Gladiolus* has come to be regarded as indispensable. From a small packet of seeds were raised and planted out sixty single *Dahlias* which, when staked, were reduced to two growths on each plant; these now coming into bloom, are charming in variety and brightness of colour, and the idea prevails that for cutting purposes this method of annually raising a collection from seed has much to commend it.

Potato spraying appears to be now generally practised through the length and breadth of Ireland, but whether sufficient persistence has obtained in redressing the haulm after washings by rain at the most critical period remains to be seen. The thought arises whether it is possible by the addition of some tenacious ingredient to the spraying solution to enhance its staying powers in showery weather. However that may be, it is gratifying to note the practical recognition now given to spraying as a blight preventive. So much depends upon autumn weather respecting this important crop that any present estimate of it would, to some extent, be premature. Summer supplies are as yet plentiful, good, and cheap. Complaints of lodged corn are common, and harvesting, except in a few favoured localities, has scarcely commenced. Fine breadths of field Turnips, although a little on the late side, have been noticed in different localities, and the Mangold crop appears to be very promising. Graziers are to be congratulated upon heavy crops of after grass, and the increasing sale of chemical manures, largely manufactured in Dublin, includes the use of superphosphate upon grass lands to their decided advantage. For several years the benefits derived from its use upon old pastures could not escape notice. By applying it in early spring at the rate of 6 cwt. per acre weedy and mossy growths give way to a sweet, nutritious herbage, in which the Trefoils play a prominent part.

On some grass farms has lately appeared a labour-saving implement which seems likely, as its merits become more generally known, to become a mechanical necessity. This is the Thistle cutter, a single horse machine, which, without cutting the grass, sweeps off with its revolving cutters not only Thistles, but Docks, Ragweed, and others of that ilk. Old-fashioned folk do not take kindly to novelties, but one who was tempted to see this machine at work says it is "a clipper."—K., Dublin.

LONDON GARDENS OVER FIFTY YEARS.

No. 12.

PROBABLY the mention of Wandsworth does to most South Londoners call Clapham to the mind. The two suburbs have ever been closely linked together. Clapham, indeed, by old repute stands tip-top amongst the Surrey suburbs of London, surpassing even Brixton and Norwood; happy, too, in the possession of its extensive common, supposed to be the stretch of wild heath land referred to in our early history, when King Allectus, with an army of Franks and Britons, met the Roman General Asclepiodotus, and after a fierce fight was utterly routed. Unlucky Wandsworth has had its common sadly mutilated, and narrowly escaped losing it altogether, but Sir Henry Peek appeared as rescuer. Regarded from an artistic and horticultural point of view, Clapham Common is not, perhaps, all we might wish. It has kept some natural beauties, certainly, and has many good scattered trees planted in an irregular fashion along a network of roads and cross paths. Upon the south side the planting was partly carried out on the principle of placing several of the same species in a clump for effect. Some patches of the primitive Furze yet remain; very liable to be set on fire during dry years. The ponds of Clapham Common yielded several curious aquatic plants, but I cannot encourage the collector to seek for them now.

Streets and terraces were springing up about Clapham fifty years ago, but there yet remained a large residue of those mansions and gardens for which the suburb was famous. It was here the City merchant had a lawn, with spreading Cedars or leafy Sycamores, beneath which his friends could sit in converse and enjoy the air. Here he devoted himself to the work of raising early Strawberries and Peas, while his houses afforded him abundance of Grapes and Pine Apples to distribute as presents. His borders showed a singular mingling of the old style flowers and the newest exotics of that day. But the railways tempted him to go farther off, away from the London fogs and noise to rural retreats, where land could be bought cheaply. Yet there are still, of course, many houses about Clapham with gardens attached of moderate dimensions, in which the space is turned to better account than it was in the ampler gardens of a bygone generation. I can recollect when a boy being taken into Clapham greenhouses which were thought remarkable then, but in which there was waste of room, uncertain temperature, harbour for insects, and other defects we do not find in the improved modern conservatories.

Gardeners and the general public used to visit Henry Groom's nursery at Clapham during May, while his was the principal establishment there, as he was famous for displays of flowering bulbs. He had over a quarter of a million of Tulips sometimes, which was thought an astonishing number forty or fifty years ago. Groom had been at Walworth, the "village of bulbs," before 1843, when he moved farther out, to escape the London smoke. He styled himself "florist to the Queen and the King of Saxony," and I believe his nursery also bore the title of the Claremont Nursery. One of his specialties was the autumn *Lilium lancifolium album*. I have been unable to discover the date of his decease. The Clapham Road Nursery was for many years in the hands of Mr. Boyce, who informed me it was founded by Attles about 1840, though the statement has been made that it was at first a branch of Randal's, who was early in this century a well-known nurseryman at Brixton. When I visited it the ground was nearly all covered with glass, and Mr. Boyce then gave much attention to soft-wooded flowering plants; he had been commended for his *Azaleas*, *Primulas*, and *Pelargoniums*.

According to our "Directory" the present occupier is Mr. Ollis, and this also records Mr. Fischer, of High Street, as the other nurseryman of present day Clapham. Another old nursery I remember was called the Rose Nursery, once famous for its Roses in pots and its Cape Heaths. Before leaving this suburb, I note that the expanse of Clapham Park was the biggest piece of land the builders had to deal with here, about 250 acres, at first called Bleak Hill Farm, belonging to the Bowyers. They leased the greater part to Mr. Thomas Cubitt in 1825. He built upon the land, but certainly improved the outlook by the formation of good roads and extensive tree planting.

At Tooting, not far off, there was a nursery, however, which existed many years, that might be deemed to occupy a more important position than any of those adjacent. This was the establishment of Messrs. Rollisson (London spells the name Ronaldson in his "Encyclopædia of Gardening"); it is said to have been started about 1780. In its early days it was celebrated for Cape and American plants, and a large stock kept of ornamental shrubs and trees, suitable for town or country. During this century the firm erected houses for Orchids, and other stove plants. In 1851 and 1852 the collection of Pitcher Plants proved a great attraction, the firm having obtained several rare and new species of *Nepenthes*, with several allied species of similar habit. Messrs. Rollisson brought over the *N. gymnaphora* of Blume, a handsome species from Java, having smallish leaves, but cups 4 inches long, of white and purple. Indeed, their collectors sent home a choice assortment from many countries

while the firm prospered. But after the decease of Mr. W. Rollisson, senior, in 1875, a shadow came over the place, financial difficulties arose, and though an effort was made to keep things going, in a few years the nursery had to be given up, having served its purpose.

Camberwell, or Camerwell, was evidently named from one of the Surrey springs, a marshy locality, at least as to its lower ground, yet always having the repute of being healthy. Here grew the Willows, on which formerly fed caterpillars of the rare butterfly called the Camberwell Beauty; the insect soon vanished from the locality, but it was henceforth a notable spot in the history of English butterflies. Camberwell was not remarkable for market gardens in its village days, but rather for its cows, though the Bowyers planted Apple orchards early in the eighteenth century. The grounds on Grove Hill, which belonged to Dr. Lettson, give us the first link between Camberwell and horticulture. Being a prosperous physician, fond also of botany, he took land here and devoted his money to the collection of choice exotics. Also he erected a number of rather curious plant houses, so that gardeners far and near sought out Grove Hill owing to the attractions of his grounds. Their popularity was increased by his publication of a descriptive pamphlet in quarto. He died in 1815. It is not unlikely that Buchanan, who started a nursery about that date at Camberwell, was helped by Dr. Lettson, his ground was below the hill, where he had an arboretum, which one of the old journals calls an "arbutrum," perhaps a printer's error, not weak Latin on the writer's part. However, his establishment prospered, he took as partners Messrs. Oldrovd and Marsden, in 1835; Mr. Fryer took possession, and Clarendon Nursery, for so it is called, still flourishes in Wyndham Road, on limited space there now, but plants are raised elsewhere away from the crowded streets. Then we discover in a nook near the Green there is a small nursery belonging to Mr. French of Wren Road.

No wonder the market gardens of Camberwell had to go, when the demand for houses became so great in this suburb, but we have a notable instance here of one being rescued from the approaching builder. The population figures are startling: from 55,000 in 1851 it has increased to about 253,000 at the present date. It happened as in other suburbs, the market gardeners had to finish up by growing vegetables not too tempting or portable on account of depredations, such as Cabbages, Potatoes, and Rhubarb. The names of Martin, Goshawk, and Myatt were well known in the district, and we have kept in memory the last of these by the recreation ground "Myatt's Fields," a space of fourteen acres, opened in May, 1889. The laying out cost £9,000, and it is well maintained by the London County Council. Much of it is garden, but, perhaps, it scarcely rivals the smaller Camberwell Green, or Park in miniature, which Ruskin called the "buttonhole of Camberwell." This two acres was bought and laid out by subscription during the spring of 1857, and the Vestry which maintains it has kept the flower-beds so well supplied with a variety of plants suitable to each season that the commendation is merited.

Camberwell Grove looks more shady than it did fifty years ago, as we walk up its slopes to the higher ground of Denmark Hill. Its trees have been hacked about, and some punctured by insects, but they hold to their ground well, and it is one of the best avenues now existing near London. Amongst the lesser open spaces of Camberwell we observe several squares and churchyards kept as gardens, but not all accessible to the public. Brunswick Square, with its fine shrubberies, is private; the Metropolitan Public Gardens Association has, however, taken measures for free admission to Addington Square and others. St. George's churchyard, of an acre extent, was opened by Mrs. Gladstone in June, 1886, and it is expected the larger ground of St. Giles's, Camberwell, will shortly be thrown open.

A few weeks ago I was referring in these articles to the West End squares, and expressed regret that the public were so jealously excluded from most of them. Last Bank Holiday I read that some philanthropic person, out of kindness to the poor of the locality, obtained permission to open Russell Square for the day. A succession of teas were given in a large tent, various games provided, a distribution of prizes taking place at nine. This might be well as an experiment, but I am afraid the trees and plants must have suffered somewhat, and this mode of utilising a square is scarcely to be recommended for imitation. —J. R. S. C.

GYPHOPHILA AS A DECORATIVE MATERIAL.—Why cannot this now universally used flower or plant be neutralised for such purposes as Parsley in the case of vegetable collections? No judge of repute would now think of disqualifying a collection of say nine distinct vegetables because a tenth was found in the form of Parsley bedding. The same rule would apply to the use of the Gypsophila, allowing it to be employed at the will of the exhibitor for purely dressing or decorative purposes. That is the most sensible course to take. Whilst decorations of that nature add nothing of value to exhibits in the estimation of judges, they do assist to render them attractive in the eyes of the show visitor, and that merits encouragement. —A. D.

LIVERPOOL NOTES.

GREENBANK, WAVERTREE.

WHAT a charming old garden there is attached to the above residence of John Branker, Esq., J.P., so well known as being Chairman of the Mersey Docks and Harbour Board. I was quite in ignorance as to its situation until I was hailed by the respected head gardener, Mr. Thos. Foster, who has been presiding here for the past twenty-two years, and is in addition Chairman of the Liverpool Horticultural Association. On entering I found a high wall surrounding the kitchen garden, fruit trees being planted next the path, the Apples carrying enormous crops. Gooseberries, Strawberries, and Currants were also good. Apricots on the wall were laden with golden fruit.

Vegetables of all descriptions are evidently well cared for, but the charm seemed to be in the herbaceous plants, which occupied every available space, and are planted in such a free way as to make a most imposing display and show their great value for decoration or cutting. Clematis Jackmanni in bush form was most charming, and Olea Haasti, like "snowy sheen" in the sunlight. At the foot of a Vine border were planted several rows of the excellent Ruby Castle Carnation; strong healthy plants, with thousands of flowers. Mr. Foster thinks it one of the best for cutting purposes. Huge clumps of the best British Ferns were noted, and the Rose garden, although wanting rain, had evidently been a sight, with autumn buds in prominence.

The houses are for the most part of the old style, but nevertheless useful and cleanly kept. There are capital Vanda suavis in full flower, and Pterocarpus fragrans. Huge Eucharis, many over 5 feet in diameter, were lessons of thorough culture, and the usual array of greenhouse plants were well represented. Todea superba and pellucida and the Killarney Fern (Trichomanes radicans) were objects of interest. Vines are very old, but the crops are useful, particularly Muscats and Alicantes.

The pleasure grounds are extensive, and contain some excellent specimen trees, whilst the large natural lake lends a charm to the otherwise picturesque garden, all of which reflects great credit on Mr. Foster and his assistants.

ROSE SOUVENIR DE LA MALMAISON.

What a glorious old Rose this is, and we may almost look in vain for such exquisitely formed buds, or anything more attractive when fully developed. It has also the merit of possessing the most delicate perfume, whilst the flesh-tinted flowers are so real as to compel admiration. A few buds plucked from a plant which Mr. Foster informed me had been planted nearly twenty years, and which was seldom out of bloom, were carried home in triumph, and equally admired by all.

LORD LATHOM AND HORTICULTURE.

Lathom House has always been celebrated for its horticultural productions, both in the time of Mr. Hathaway, who so admirably fulfilled the position of chief of the Southport Parks, and of Mr. B. Ashton who now has charge. It becomes a double pleasure, therefore, to know that the present respected owner intends to reside here more and take a deeper interest in the welfare of the inhabitants. The Countess on Saturday last opened the Westhead Show, and the Earl said in responding that they returned to Lathom House after a sad time, but their desire was to spend the greater part of their days there, and to interest themselves in the pleasures and occupations of those around them. The cultivation of their gardens was a pleasure, not only to themselves, but to all passers-by who delighted in seeing a well-kept garden.

OPHIPOGON JABURAN VARIEGATA.

Easily grown greenhouse foliage plants are as welcome alike to professionals as to amateurs, and one that will always command attention is the above, which, if possessing a somewhat uninviting title, is of very great benefit, the long, narrow, recurving, creamy leaves being peculiarly adapted for grouping purposes in whatever position they are placed.

Well grown plants look most effective against any green background, and for house decoration withstand the effects of gas better than most plants. In a too rich compost the plants grow rapidly, but do not attain the pretty appearance of habit or colouring as when grown in poorer soil. Too much heat has a tendency to cause the leaves to get weakly, a temperature of from 45° to 50°, in which we grow them, suiting to a nicety. Good fibrous loam, with leaf mould and sand, is the compost.

RUDBECKIA PURPUREA.

Is there any special difficulty in growing the variety purpurea that makes its absence so often noted from many collections of herbaceous plants and more specially from stands of cut flowers? Nothing for full rich tone can surpass a good bunch of it, the crimson purple flowers, and wondrous disc standing almost alone in their beauty. With me a small piece planted in a sunny position has made good progress, but the flowers are nothing as compared to some seen from other districts, yet they have been appreciated. Perhaps Mr. Arnott, with his usual kindness, will oblige with a line as to the best methods under which he has seen them growing, and if protection is required during severe winters. —R. P. R.

"FAMILIAR WILD FLOWERS."—This work is now rapidly approaching completion, and it is more than maintaining its early promise. Parts 21 and 22 contain excellent representations of White Water Lily, Marsh Mallow, Golden Rod, Sea Stock, Thyme and Single Headed Cotton Grass, Ox Tongue, Sand Rocket and Bog Pimpernel, Traveller's Joy, Sneezewort, Black Nightshade, Columbine, Rosebay, Samphire, Solomon's Seal, Parsnip, Arrowhead, Bilberry, Yellow Melilot, Milkwort and Dog Violet.

PEACH TREE TRELLISES.

It is nearly thirty years since Mr. T. Challis of Wilton House, Salisbury, introduced the system of training Peach trees in early as well as late Peach houses on perpendicular transverse trellises, in place of the usual longitudinal ones. These were arranged in pairs, 6 inches apart, with intervening spaces between them of 5 feet 6 inches. Being placed immediately under the roof rafters, which afforded means of support, they were carried across to the pathway at the back, over which they formed an arch, to the back wall, to which they were secured.

The chief objects in view, in adopting this system, were to increase the training space, to give freer access to the trees, and also to give uninterrupted light to the trees planted on the back wall. Many and great were the objections raised against this system at first by friendly critics, but these, fortunately, have all proved groundless, and the system is now extensively adopted in every part of the country.

When first planted, the usual fan form of tree was chosen, these were planted back to back, one tree to each trellis, and the time occupied to cover each trellis was about six years. Now, however, the upright cordons only are used, three maiden trees being planted equi-distant on each trellis, at about 3 feet apart.

Instead of taking six years, the whole trellis can by this means be easily covered in three years, and a very fair crop can be taken the first year after planting. This is an immense gain on the old method, and one to which I would venture to direct special attention, as by this method of planting and training not only can a greater number of varieties be grown, and a better succession of fruit be secured, but the fruit obtained therefrom is better in every respect than that borne by the fan-trained trees.—VISITOR.

DEATH OF M. HENRY DE VILMORIN.

MANY who have from time to time at the meetings of the Royal Horticultural Society and the réunions of the Horticultural Club met the distinguished Parisian horticulturist, M. Henry de Vilmorin, will regret to hear that he has been taken away whilst still in the very prime of life.

Henry Lévêque de Vilmorin (of MM. Vilmorin, Andrieux, & Co.) was the son of M. Louis Lévêque de Vilmorin, who, with others of the same family, have been prominent figures in French Horticulture for more than three generations. He was fifty-six years of age. In 1861, when he was only eighteen, he entered the business and began to take up the study of horticulture and agriculture, on the decease of his father, whose life had been devoted to the pursuit of these kindred sciences. In 1866 he visited England for the purpose of perfecting himself in the language, and also in order to make himself acquainted with those English educational and commercial institutions which had a direct bearing upon the subjects which he was interested in promoting at home, both theoretically and practically. Throughout the long business life M. Henry de Vilmorin not only found time to travel, but also to organise societies, and to make numerous contributions and monographs to the proceedings of the various agricultural and horticultural institutions of which he was a member. Among these may be mentioned "A Study of Heredity in Vegetables" (1879), "Les Meilleures Blés" (1880), "Experiments in Crossing Different Cereals," contributed to the Journal of the Botanic Society of France (1880), "Systematic Catalogue of Potatoes" (1886), "Les Plantes Potagères" (1887), "Les Plantes de Grande Culture," "Flowers of the Riviera," which appeared in the Journal of the Royal Horticultural Society of this country in 1893, with many others, including annual contributions to "Le Bon Jardinier" during a space of thirty years.

M. Henry de Vilmorin participated also in the Botanical and Horticultural Conferences held at the great French Exhibitions of 1878 and 1889, at which he read papers. He was also commissioned by the Council of the Society of Agriculture of France to visit the United States to inquire into the conditions of the grain culture and trade prevailing there, and was the delegate of the French Government to the International Exhibition at St. Petersburg in the present year. In 1881 he was appointed Vice-President of the Botanic Society of France, and in 1889 ascended to the Presidency. He was the first Vice-President of "The National Society of French Horticulture," in whose journal his contributions form a prominent and regular feature. As the founder

of "The Society of French Agriculturists" he always took a deep interest in their proceedings, and occupied himself much with experiments in their laboratory regarding questions connected with the fertilisation of cereals. He made also frequent communications with reference to the utilisation of city sewage, the nature of manures, and questions relating to cropping.

The distinctions conferred upon M. Henry de Vilmorin are too numerous to mention. They came from almost every European country—Prussia, Italy, Denmark, Russia, Belgium, and others. In his own land he had been a Chevalier of the Legion of Honour since 1882. In England he was the recipient of the Veitch Memorial medal. Being a fine English scholar, and commanding a good colloquial faculty of English, he was much at home with us. Englishmen found him quite



FIG. 37.—MONS. HENRY DE VILMORIN.

sympathetic, which congeniality may be accounted for by the fact that he was not only a fine linguist, but a man of broad and varied culture. He died on the 23rd of August, and was buried last Saturday at Massy-Verrières, near Paris.

CULTIVATION OF TURNSOLE.—The "Kew Bulletin" translates from "Le Petit Journal" the following account of the cultivation of *Chrozophora tinctoria* at Grand Gallargues in the Department of Gard, South France:—"This year's harvest, which has been a fairly good one, is for the most part as usual absorbed by the Dutch cheese industry. Our soil is peculiarly suited to the cultivation of *Chrozophora tinctoria* (*Croton tinctorius*; *Croton des teinturiers* or Turnsole), and it grows with us even in a wild state. When the reaping is done our farmers gather the stems and leaves together and place them in small heaps on the outskirts of the village to ferment. Fermentation brings about the changes necessary for the development of the fine red dye, which for centuries has been employed by the Dutch cheese-makers. Year by year for several centuries has a Dutch ship put into Certe and taken off a cargo of Croton stems and leaves prepared as just described. To give them their red colour the cheese manufacturers of Holland wrap their cheeses in the Croton leaves and take them out the red balls, which are exported the whole world over. Grand Gallargues is thus the source of the red of the Dutch cheese." The "Bulletin" adds, "A little of interest may be added to the above. Not until 1808 was it shown clearly that Turnsole could be cultivated from seed. Before this date, the people of Grand Gallargues, which, then, as now, was the centre of the industry, harvested their entire crop from wild plants. Year by year in the months of July, August, and September, they scattered through the departments of the South of France—Bouches du Rhône, Var, Gard, Hérault, Pyrénées orientales and Vaucluse—gathering the plants where abundant, and fermenting them on the spot."



COMTESSE DE NADAILLAC.

THE flowers of this lovely Rose seem to want heat to bring out their beautiful colouring, and the second crop of flowers now open are far brighter in tint than were those of the first. The deep apricot shading at the base of the petals is quite distinct from that of any other variety, while the shape of these second flowers is exquisite. They are naturally not so full as the early ones, but much as this may detract from the flowers for exhibition purposes, it adds to their beauty. Comtesse de Nadaillac may be selected as one of the very finest Teas, and when established and only lightly pruned, it is very free flowering.—H. R. R.

ROSA WICHURIANA.

THIS Japanese Rose is essentially a procumbent or creeping plant, suitable for clothing sunny banks or mounds where a quick-growing plant is required. It grows with great rapidity in any fairly good soil, and will soon cover a large space of ground, throwing out shoots which attain to a length of 15 to 20 feet in a season. The flowers open in August and September, are pure white and sweetly scented, and, though individually only a little over an inch across, are produced in such quantities as to render the plant extremely attractive. The blossoms have a splendid setting in the small dark-green foliage, which is perhaps the most glossy of any hardy plant, shining as if newly varnished.

R. Wichuriana succeeds best in a sunny position, but it should not suffer from lack of moisture at any time. As far as insect pests are concerned, it may occasionally have a little green fly on, but seldom enough to disfigure it, and it never suffers from the attacks of mildew. It requires very little pruning; small or weakly shoots should be thinned out in the winter, but none must be shortened back.

It is easily propagated by cuttings or layers, the latter for preference, as shoots may often be found that have commenced to root, more especially in moist places. In America it is commonly called the "Memorial Rose," from the fact of its being largely used for planting on graves.—C.

PLANTS IN POTS.

ROSES are generally admitted to be the most beautiful flowering shrubs of our gardens, and for a number of years both in England and on the Continent they have occupied a large share of attention. Who is there that will come forward and deny that they have not a slight weakness, if I may term it so, for Roses? At all times Roses are strikingly beautiful, but more particularly so during the spring and early summer months, and they are especially valuable for the ornamentation of the conservatory, and I know of no more pleasing sight than that of a house furnished with well-grown specimens bearing luxuriant foliage and well-formed flowers. So well do they harmonise and associate with other spring plants that it is of their culture in pots for this purpose, as well as for exhibition, that I describe the method that I have adopted with a fair amount of success. Creditable specimens may be grown by any enthusiast, even if only the convenience of a cold pit is afforded.

Almost every Rose, whether Hybrid Perpetual, H. China, or Tea, does well under pot culture; and those who wish to procure a collection in the shortest space of time would do well to go to some nursery where this favourite is made a specialty, and select as many plants as means or convenience will admit. Now and during September will be a very good time to select well-established plants in 6 or 8-inch pots, and such may be purchased at reasonable prices.

As soon as possible after receiving them from the nursery examine the roots, for it may be found that many of them will be benefited by a shift into 10-inch pots. This operation will also enable one to ascertain whether the drainage is in good order or not—a point that is most essential, for the Rose is very impatient of stagnant water at the roots. The following soil will be found suitable to them:—Good strong, turfy loam, the top spit from an old pasture three parts, the other part of well-decomposed cow manure, or sheep droppings if they can be procured; a little leaf mould and a sprinkling of bone dust may be added with advantage. Chop and mix the compost well together and pot firmly, taking care that the plants are moist at the roots before potting. After potting place the plants in a cold frame, admitting plenty of air by tilting the lights, and on all favourable occasions draw them entirely off. It is not warmth that is required, but a place of shelter from the heavy autumnal rains and very severe frosts. In these quarters the plants may remain until they are started into growth.

It takes, as a rule, from eight to eleven or twelve weeks to bring

Roses in full bloom from the time they are started; and if wanted to bloom during May, which is the month in which pot Roses are usually exhibited, the first week in March will be found early enough to start them. Soon after the turn of the new year, say early in January, prune away all weak or watery-growing shoots, and shorten the points of all the shoots, more especially such as are not well ripened; it is not, however, necessary to prune as hard as one would for a plant growing out of doors.

Have a ball of cord or some other tying material in readiness for training the plants. Begin by placing a string around the rim of each pot, then bring gently down the point of each shoot to the string; this to be continued until all the branches or twigs are bent back, so that they may be likened to an umbrella turned inside out. This severe training or bringing down of the branches is indispensable, as it regulates the sap and causes each shoot to break right back, which otherwise would not be the case. By thus training a foundation is laid for good plants in future years, and the foliage is made to cover the rims of the pots. This operation must be done very gently, as too great a strain is apt to break the shoots.

If plants are not wanted to bloom until May they can be started about the first week in March in a cold pit or in a house set apart for them, and must be encouraged into growth by keeping close, and syringing two or three times a day with tepid water. If rain water is not procurable, always place some pots of water in the sun to prevent that sediment which is so often found on the foliage of plants after using hard water. Keep the plants as near to the glass as possible, and close until the buds begin to burst strongly. As the buds begin to gain strength air must be given as weather permits. This simple work requires more than ordinary caution, as cold currents must be carefully avoided, and often during March we have strong bursts of sunbime with keen cutting winds. The young and tender foliage is unable to bear these cold draughts, which are the cause, in my opinion, of the mildew. This pest must be kept in check by dusting with sulphur on its first appearance, or it will possibly spread all over the plants; so again I say, carefully avoid all cold currents, and close early to husband the natural heat. In the morning you will be rewarded by finding the edges of the leaves covered with beads of dew, and the plants bearing a fresh and thriving appearance.

When growth has commenced the anxious grower will have to keep more than an ordinary look out for that worst of all pests to the rosarian, the Rose maggot, which coils itself in the half-expanded leaves, and if not detected drills its way into the hearts of the flower buds, which have to be picked off; besides, the foliage will present a riddled and unsightly appearance. Wherever a curl appears there the enemy will be found lurking, and a simple pressure between the forefinger and thumb will soon settle him. Green fly will also be found to put in an appearance at this stage, and the syringe or a smoking or two with tobacco must be resorted to. I have invariably found as the plants gained strength that a good wash at times from a tolerably coarse rose watering can was more effectual than syringing.—ROSARIAN.

(To be continued.)

POINTS IN THE PARKS.

THE month of August is usually considered the best period for visiting the London parks, at least to the enthusiastic gardener bent on acquiring the latest ideas in summer planting, or bedding as it is more commonly called. And where could one find such summer bedding, as the public of London, aye and the country too, enjoy?

It was on a close sultry day that I started on my rounds, reaching Battersea Park somewhat early. It is well known that here one sees sub-tropical bedding to perfection, and this year the capable superintendent, Mr. F. J. Coppin, fully maintains the best traditions of the park.

I have, however, no intention of giving a general description of each park, but rather to select a few of the most attractive beds. A large circular bed first secured my notice. It was filled with large Ivy-leaved Pelargoniums in a variety of colours, in full beauty, with tall standard Fuchsias as "dot" plants towards the centre; dark Heliotropes formed a broad band, while the edging consisted of dark Alternanthera. In another bed dwarf Lantanas at once arrested my attention; the bright colours, combined with the dark green healthy foliage, stamps it as a most effective plant for this purpose. The groundwork and edging were dark blue Lobelia. This is a bed that might well be imitated to good purpose.

A bed after Battersea's own heart next warrants notice, in which carpet bedding plays an effective part. Tall plants of Cordylina australis, with specimen plants of Asplenium bulbiferum and bright Coleuses formed the top of the bed as it were, while beautifully coloured Acalyphas were dotted here and there. The groundwork was filled in with a raised carpet design, which did not remind one of the Brussels carpet at home. Another happy combination was formed by a bed of Pandanus Veitchii, with Acalyphas and various succulents worked in between, while the carpet flooring gave just sufficient colour to the idea.

Zea japonica variegata contributed to another bed a capital effect. The plants were tall yet well coloured. Large Heliotropes assisted with their delicate colour, while silver edged Pelargoniums and blue Lobelia

completed the display which was most effective. It would be hardly fair to pass this beautiful park without reference to the grand effect produced by the splendid Palms in variety, Musas, Bamboos, and Ferns that are so effectively displayed.

Journeying next to Hyde Park one becomes at once cognisant of the vicinity of fashion, as represented not only by the visitors one meets but by the style of the park itself. Everything is of the most refined order, and in the summer bedding this is very apparent, though some of the latest efforts in employing new plants did not strike me as being successful.

Here again the Ivy-leaved Pelargonium is doing good service, and as employed the plants are excellent for the purpose. The large specimens entirely do away with the squat appearance they sometimes present. A pretty bed was composed of giant plants of *Souvenir de Chas. Turner*, *Fuchsia fulgens* with its grand foliage, tall *Fuchsias*, *Calceolaria amplexicaulis*, with African and French Marigolds edged with broad blocks of *Leucophyton Browni* and *Alternanthera*. It reads a strange combination, but it is most effective.

In a large oblong bed we meet a somewhat similar arrangement, though composed of different plants. *Acalypha marginata*, with Ivy-leaved Pelargoniums, *Cannas*, standard *Fuchsias*, summer-flowering *Chrysanthemums*. The pretty little *Cuphea platycentra*, *Coreopsis lanceolata*, with a deep border of *Antennaria tomentosa*, in which plants of Pelargonium Black Vesuvius were dotted at intervals, formed the combination.

Proceeding, the next bed to take the eye was one of dark *Heliotropes* of the tall pyramidal type, with Mrs. G. Rundle *Fuchsias* of similar stature; patches or clusters of bright *Montbretias* were dotted in at intervals. The edging was *Alternanthera*. A pair of large carpet beds were bright and effective, but as they are difficult to describe without a plan I must pass them with the mere mention.

A bed of scarlet *Begonia* seedlings, in which plants of *Grevillea rostrata* were dotted, attracted my attention, for it was the only instance throughout my tour where I saw the tuberous *Begonia* at all happy or even presentable. The dark blue edging of *Lobelia* and groundwork of golden *Creeping Jenny* were very pleasing. A pretty bed was composed of rather tall plants of *Eucalyptus Gunnii*, *Molopospermum cicutarium* with Fern-like foliage, dwarf *Cockscombs* to lend colour, with a flooring of *Alternanthera*.

In spite of all this modern bedding an odd bed of bright "Geraniums" here and there had a wonderfully pleasing effect. The vivid scarlets thrown down on the broad expanses of grass filled the visitors with admiration. The specimen flowering plants so freely used in this park, such as blue and white *Plumbagos*, tall *Fuchsias*, giant Pelargoniums, *Heliotropes*, *Bougainvilleas*, and many others form quite a feature, which might be copied in private gardens with advantage.—A COUNTRY VISITOR



NATIONAL CHRYSANTHEMUM SOCIETY.

THE Executive Committee of this Society held a meeting on Monday evening last at Carr's Restaurant, Strand, Mr. P. Waterer being in the chair. The usual preliminaries of reading the minutes and correspondence having duly received attention, the Secretary called attention to the fact that the Society had since its last meeting lost several of its members by death, viz., Messrs. George Fry, T. W. Girdlestone, and J. T. Saltmarsh. The Foreign Secretary, Mr. Harman Payne, also reported the death of Mr. Henry L. de Vilmorin, who was one of the honorary Fellows of the N.C.S.

The Secretary announced that Mr. Taylor's audit of varieties shown at the November Exhibition was not completed in time for publication in the schedule, but that the figures in comparison with those of the previous year might prove interesting, and were as under. In the cut bloom classes the numbers were:—

Japanese	...	1737	in 1898	...	1870	in 1897
Incurved	...	680	"	...	664	"
Reflexed	...	24	"	...	24	"
Pompons	...	102	"	...	144	"
Anemones	...	264	"	...	276	"
Singles	...	48	"	...	180	"
Total	...	2805		Total	...	2858

Mr. Howe was elected to a seat on the Schedule Sub-Committee and Mr. W. J. Godfrey to one on the Classification Committee, in place of Mr. W. H. Lees, who resigned. The Floral Committee submitted a report consisting of several alterations in its regulations, and a statement was also made respecting the Society's new medal, which it was hoped would be ready shortly.

The annual dinner was left in the hands of a small Sub-Committee, consisting of Mr. H. Taylor, Mr. Simpson, and Mr. Moorman.

The Bideford Horticultural Society, the Southend Chrysanthemum

Society, and the Wellingborough Chrysanthemum Society were admitted in affiliation; and the roll of membership was increased by the election of thirty new Fellows and members.

In view of the meeting next month of the horticultural section of the British Commission of the Paris International Exhibition of 1900, it was resolved that Mr. P. Waterer and Mr. C. Harman Payne be elected as delegates to represent the N.C.S. on that occasion.

FUNGUS ON CHRYSANTHEMUMS.

FROM all quarters comes the cry, Can you tell me what is the matter with my Mums? If I were of a nervous disposition I should feel fungus creeping all over me, for I have had enough sent by post lately to supply all England, let alone our little stock. Generally the request is, What can I do to stop it? As I have repeatedly said, paraffin is the best preventive, and if it cost a guinea a pint it would be thought more of (as an insecticide) than it is. It must be used carefully, at the rate of not more than a wineglassful to 2 gallons of water, and be kept thoroughly agitated, when its value will soon be recognised.—W. WELLS.

DISBUDDING CHRYSANTHEMUMS.

CULTIVATORS of the Chrysanthemum might safely be divided into two classes: the one grows for cutting and decoration, the other for exhibiting. Some of the former are very careless in many respects in relation to disbudding, while the latter is and must be most anxious and careful, as upon this depends to a large extent the success of his labour. The two have in view very dissimilar objects, and follow two distinct systems of cultivation. In gardens where these autumn flowers are grown little or no heed is given to disbudding, or it is carelessly performed, and perhaps at a stage when the plants would receive no benefit from the operation.

Chrysanthemum cultivation has increased considerably during the past few years, nevertheless the plants are only poorly grown in many establishments. If these growers would follow in some details the system pursued by exhibitors they would profit considerably. Disbudding to a certain extent is as necessary when growing for decoration as for exhibition, only the former need not disbud so severely and devote all the energy and strength of the plant to the production of one or two blooms. The exhibitor desires size as well as other qualities, and the strength of the plant must be concentrated, therefore careful and judicious disbudding is necessary. It is equally so with the other if he require a good bush carrying a number of flowers. It must be early decided how many shoots the plant is to carry, pinching the points out of the shoots in its early stages until the required number are formed, say from six to twelve, or as many more as the cultivator considers essential. These shoots must be allowed to extend, and all side growths from the axils of the leaves be removed as they appear as well as suckers. When the plant has one or two stems they often show a bud during the month of May; this must be removed.

The month of July is rather a critical stage, and many, especially beginners, for whom these notes are intended, fail to produce fine flowers. The plants during that month show what is known to Chrysanthemum growers as the July bud. This bud is useless. Chrysanthemum experts glancing through the plants about that season of the year quickly form an idea if they are right for producing good blooms provided all goes well afterwards. When the bud alluded to is appearing the points of the shoots should at once be removed, and all the side shoots except the most promising one, which should be encouraged.

If the plants have not sufficient shoots they can form two or three shoots from this bud to flower eventually on the crown bud, which is the next that appears. Remove the three shoots that would spring from beneath and grow some 6 or more inches in length, and then form other buds, which are known as the terminal bud. If the flowers are taken from this bud the centre one must be selected, and the small buds surrounding it must be removed.

When growing the plant with one or two stems (incurved varieties are alluded to), it is not always wise to select the crown bud as recommended by many. If the plants are very strong and the varieties inclined to be coarse, and the crown bud is selected, the flowers are sure to be coarse, or what has been termed overgrown. Some may be ready to contest this point and assert that the crown bud produces the finest flowers. I am willing to grant that many fine well-shaped flowers are produced from the crown bud of the Mrs. George Rundle type, but it will with many other varieties produce deformed, ragged, and worthless blooms. An intimate knowledge of the plants and whether the blooms they produce are liable to be coarse or naturally come well-shaped is requisite in attaining successful results. The cultivator should also grow the same variety in both ways, and then note the difference. It is difficult in this, as in many other operations connected with gardening, to lay down minute rules for guidance, which can only be attained by experience and intelligent observation.—PRACTICE.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.—GRAFTED POTATOES.

MR. A. W. SUTTON sent up to the Royal Horticultural Society, on August 15th, some specimens of the haulm and tubers of various Potatoes upon which he had been experimenting. Unfortunately the Committee was not sitting, but the specimens were examined, and the following notes are placed on record. It will be remembered that Mr. Sutton, on January 31st, 1899, exhibited numerous tubers, the character of which appeared to have been modified in consequence of the plants from which they were grown having been grafted with Tomatoes, &c. The plants now exhibited show that the modifications alluded to were not confined to the tubers alone, but were noticeable in the plants generally, and that there had been no reversion to the original form. The specimens exhibited were the following:—

No. 1.—Potato "Victoria," typical plant, showing normal growth and produce.

No. 2.—Plant grown from tubers which were the result of grafting in 1895, Tomato "Maincrop" on Potato "Victoria." Each year since 1895 a crop has been grown and tubers saved (resulting from this graft).

NOTES.—All the plants in this row are alike, but the growth is only about one-third the height of No. 1, and the tubers few and small. [Haulm much dwarfed and produce diminished, form of leaf not altered.]

No. 3.—A similar experiment to last, except that in 1895 another variety of Tomato—viz., Sutton's "Perfection," was grafted on to "Victoria" Potato.

NOTES.—All the plants in this trial are also very uniform, exactly corresponding with one another, but they are rather stronger than No. 2, and more bushy, and yet quite distinct from No. 1. N.B.—No. 3 is the produce of one set only.

No. 4.—A similar experiment to Nos. 2 and 3, but in this case, instead of a Tomato, the common garden weed, *Solanum nigrum*, which produces seed-berries so plentifully, was grafted on the Potato "Victoria," in 1895.

NOTES.—The plants in this row correspond more nearly to those in No. 1, but whereas in neither No. 1, 2, nor 3, are there any seed-berries, in this row (No. 4) the plants produce seed-berries abundantly.

Three plants of No. 4 are sent to show its seed-bearing tendency.

N.B.—It will be seen that the tubers vary little, if at all, from those of No. 1 (this was the case also when shown in January last).—A. W. S.

[Victoria foliage unaltered; haulms bear numerous berries of the size of marbles.—ED.]

A very similar experiment was made in 1895 with another Potato, Sutton's "Supreme," the character and constitution of which appears to have been modified by Tomato grafts, just in the same way as Victoria Potato was.

No. 5.—Typical plant of Potato "Supreme."

No. 6.—Plant grown from tubers which were the result of grafting, in 1895, Tomato "Ham Green Favourite" on Potato "Supreme." Each year since 1895 a crop has been grown and tubers saved (resulting from this graft), as in the case of plants Nos. 2 and 3.

It will be seen that here also the plants are much dwarfer, though the tubers do not differ much, except in their smaller size.

Axillary Tubers.—No. 7.—An interesting experiment was made in 1895, as follows:—Tomato Earliest of All was grafted with Potato Woodstock Kidney. The Potato foliage produced axillary tubers, nourished, of course, by the Tomato roots. The axillary tubers were planted, and a crop has since been grown annually. No. 7 represents the ordinary plant of Potato Woodstock Kidney. No. 8 represents the plants grown from the axillary tubers of 1895 and successive years.

NOTES.—Perhaps No. 8 is stronger and taller, and more upright in growth, but there is no very marked difference between the two as regards foliage; the tubers of No. 8, however, are very poor in every way, and very few in number, and the quantity of fibrous roots relatively large.—A. W. S.

DRILL HALL.—AUGUST 29TH.

THE Exhibition on Tuesday was smaller than we have become accustomed to of late, but this may be accounted for by the holiday season. Orchids, as is generally the case at this season of the year, were few in numbers, as were fruits and vegetables. Flowers were diversified and numerous.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair); with Messrs. J. Cheal, J. H. Veitch, M. Gleeson, W. Pope, A. Dean, S. Mortimer, W. Farr, W. Bates, W. J. Empson, F. Q. Lane, G. Reynolds, G. Norman, and G. Bunyard.

Messrs. Harrison & Son, Leicester, arranged a collection of Onions, comprising three dozen varieties. This exhibit was instructive as facilitating comparison of the different varieties, all of which were well grown and of typical form. Some of the best were Banbury Cross, The Aristocrat, Excelsior, Ailsa Craig, Straw Yellow (an attractive flat variety of considerable weight), Prizetaker, Crimson King, Bedfordshire Champion (true stock and excellent), Danvers Yellow, Blood Red, White Lisbon, with the customarily autumn Onions from spring-sown seeds (silver Banksian medal).

Messrs. G. Bunyard & Co., Maidstone, exhibited beautiful examples of Apple Lady Sudeley, and Pear Jargonelle, with the Japanese Wineberry (*Rubus phoeniculus*), and jam made from it. Messrs. J. Cheal and Sons sent from Crawley Tomato Cheal's Prolific, and Mr. H. Broom, New Barnet, fruit of a Tomato called Chemin Rouge, but which more resembled Frogmore Selected.

Mr. W. Mitchell, Farnham Royal, Slough, staged a dish of Nuts, also a dish of well grown Blackberries. Messrs. Harrison & Son, Leicester, exhibited fruits and fruiting branches of the Strawberry-Raspberry. The fruits were bright, but flavourless. Mr. R. Fife, Orpington, sent two pots of jam made of yellow and red Tomatoes. Mr. W. Cross, Wisbech, again sent the Apple Early Victoria, which has been described before in these columns. Mr. J. Escombe, The Grove, Penshurst, exhibited a number of diseased and scabby Potatoes, those grown in burnt garden refuse and soot being the cleanest samples.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. R. Dean, W. Howe, J. Hudson, C. J. Salter, C. E. Pearson, W. Bain, F. D. Pawle, J. Walker, G. Gordon, E. H. Jenkins, and E. T. Cook.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, contributed a very pleasing table of plants. There were pyramids of *Acalypha hispida* (Sander), *Abutilon Golden Fleece*, with numerous plants of *Campanula isophylla*, white and lilac, *Bonvardia*, *Ferns*, and *Selaginellas* (silver Banksian medal). Messrs. J. Veitch & Sons, Ltd., Chelsea, were represented by a group of New Zealand plants, amongst which *Pittosporum Buchani*, *P. tenuifolium*, *P. rigidum*, *P. eugenioides*, *P. Ralphi*, *P. Mayi*, *Olearia mummularifolia*, *Alectryon excelsum*, *Plagianthus betulinus*, *Melaleuca ericæfolia*, *Aciphylla squarrosa*, *Senecio Greyi*, *rotundifolius*, and *compactus*, with *Olearia moenchata* were noticed.

Roses formed the bulk of the exhibit arranged by Messrs. Paul and Son, Old Nurseries, Chessington. Considering the weather that we have experienced the blooms were of good substance and bright colour. Some of the best were Charles Lefebvre, Mrs. W. J. Grant, White Maman Cochet, Maman Cochet, Mrs. J. Laing, and Caroline Testout. The same firm sent also bunches of Hibiscus, with handsome sprays of *Koeleria paniculata*, and a spike of the Water Hyacinth (*Pontederia excelsa*), the plant that is causing such an immense amount of trouble in some of the American rivers (silver Flora medal). Messrs. F. Sander & Co., St. Albans, staged *Acalypha hispida* (Sander), *Aërides Lawrencei*, *Dipladenia atropurpurea*, and *Dendrobium formosum giganteum*.

Messrs. Birr & Sons, Covent Garden, staged an exhibit of hardy flowers which were somewhat too sparsely displayed. The chief items were *Tritomas* in variety, *Phloxes*, *Gaillardias*, *Liliums*, and *Pompon Dahlias* (silver Banksian medal). Messrs. T. S. Ware, Ltd., Tottenham, showed a well displayed exhibit of Cactus and Pompon Dahlias disposed with a variety of hardy flowers, also a collection of *Cannas*. The chief Cactus varieties were *Empress of Austria*, a crimson-red with a true petal; *Magnificent*, Mrs. Wilson Noble, Col. Wilson, Britannia, and Countess of Londale. The best of the *Pompons* were *Mars*, *Tommy Keith*, *Gertie Friesel*, *Flora*, and *Lonie Mawer*. The *Cannas* comprised such varieties as *Oceanna*, *Admiral Avellan*, *Campania*, *Progression*, and *Austria* (silver Flora medal).

A magnificent collection of *Nepenthes* was staged by Messrs. Jas. Veitch & Sons, Limited, Chelsea, beautifully displayed in a bed of *Adiantums*. The *Nepenthes* were *N. bicalcarata*, *N. Mastersiana*, bearing nearly thirty splendid pitchers, *N. Chelonii*, with its enormous pitchers, *N. Hookeriana*, *N. mixta*, *N. Morganiae*, a charming plant; the well known *N. Rafflesiana*, *N. Burkei*. The red variety of *N. Mastersiana* was excellent, while the giant forms of *N. mixta sanguinea* attracted considerable attention. The lighter form, *N. Americana*, contrasted well with the darker form. A well known example of *N. Chelonii* was noteworthy, as were good plants of *N. formosa*, and *N. intermedia* (silver-gilt Flora medal).

Messrs. Wills & Sagar, South Kensington, arranged a table of foliage plants most effectively; the subjects employed, *Alocasia Sedeni*, *argyrea*, *Mortfontainensis*, *Sunderiana*, *Thibautiana* and *Watsoni* were particularly attractive, as were groups of *Aralia Veitchii* and *Phrynium variegatum*. *Crotons* and *Dracæna Goldiana* formed the striking features, while the specimen *Palms*, *Stevensonia grandifolia*, *Licualia grandis*, and *Martinezia caryotafolia* were well developed specimens. The groundwork was composed of *Ferns*, *Marantas*, *Crotons*, *Aralias* and *Begonias* (silver-gilt Banksian medal).

An interesting group of herbaceous *Lobelias* was staged by Mr. W. Bain, gardener to Sir Trevor Lawrence, Dorking, no less than eighteen varieties being represented. The most attractive were *L. cardinalis* Gem, a beautiful rose colour; *L. ignea* Firefly, a bright crimson; *Amethyst*, a violet colour; and *Crimson Gem*, a deep crimson form.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, J. G. Fowler, A. H. Smee, H. J. Chapman, A. Ouram, T. W. Bond, H. Little, E. Hill, W. Cobb, J. Colman, J. Douglas, de Barri Crawshaw, and H. M. Pollett.

Orchids were not very numerous, but interesting as usual. Mr. W. H. Young, Orchid grower to Sir F. Wigan, Bart., East Sheen, sent *Cattleyas* *Hardyana*, *molle*, and *Warszewiczii* Prince of Wales, Mr. Shill, gardener to G. W. Law Schofield, Esq., Rewtenstall, staged *Cypripedium Juno* Schofield's var., and *C. Veitchii* x *Morgania*. W. Cobb Esq., showed *Epidendrum prismatocarpum*. Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited *Laelio-Cattleya Phryne*, *Phallo-Calanthe inaequalis*, *Cypripediums* *Captain Holford* and *Janet*. Mr. H. S. Leon sent from Blechley Park, *Laelio-Cattleya blechleyensis*, and Mr. W. King, gardener to J. Colman, Esq., Gatton Park, Reigate, showed *Houletia odorata* and *Cattleya Hardyana* Mrs. J. Colman. Mr. G. Day, gardener to H. F. Simonds, Esq., Beckenham, exhibited *Cattleya Hardyana* and *C. Hardyana* Simonds's var. Messrs. J. Veitch & Sons were represented by a small group of hybrid Orchids, including *Laelio-Cattleya callistoglossa ignescens* and *Nyssa*, all in splendid form.

CERTIFICATES AND AWARDS OF MERIT.

Canna Beauty Poitevin (T. S. Ware).—A rich dark crimson variety, with flowers of medium size (award of merit).

Cypripedium Captain Holford (J. Veitch & Sons).—This is a hybrid from *C. hirsutissimum* and *C. superbiens*. The pouch is dull claret and the petals green, with rose margins and numerous brown spots. The dorsal sepal is green, edged white, with lines of brown spots (award of merit).

Dahlia Mrs. J. H. Luscombe (J. Cheal & Sons).—A pinkish rose coloured variety, that is by no means of true Cactus type (award of merit).

Dahlia Mrs. Stephenson Clarke (J. Cheal & Sons).—A yellow based Cactus variety, with red edges and tips (award of merit).

Gladiolus Jas. H. Veitch (J. Veitch & Sons).—A strikingly handsome flower. The colour is rosy scarlet, with cream on the lower segments (award of merit).

Polygonum Baldschuanianum (Barr & Sons and T. S. Ware).—A profuse flowering form, with creamy coloured blooms. It is a sub-shrubby species (award of merit).

Robinia inermis albo-variegata (Cripps & Son).—The varietal name clearly describes this plant (award of merit).

AUTUMN-ROOTED FUCHSIAS.

CUTTINGS of Fuchsias root readily at any season, the points of young growing shoots that are free from flowers being selected. Old plants, cut back and started in early spring, are considered to produce the best shoots for cuttings. They have a short-jointed base and a vigorous-growing point, so that a plentiful emission of roots and a free growth may be looked forward to, with, in due course, well-flowered plants in a handy size of pot for general decorative purposes in late summer, as they can be grown very rapidly in the spring and early summer months. Such plants are extremely useful in 5 or 6-inch pots for greenhouse, conservatory, or indoor decoration in August onwards, and I have grown them in large quantities for these purposes. Even early rooted Fuchsias, established singly in small pots, hardened and planted out at the end of May or early in June, make charming bedding or border plants, having a freshness, especially in a dry season, that one year old or older plants do not possess.

Excellent as may be the cuttings produced by old plants when started in early spring, I consider cuttings of vigorous young plants inserted in the autumn, not later than early in October, and the young plants kept growing all the winter, develop into better specimens the following summer, for the autumn rooted ones are established in pots by the time the others are put in, and consequently considerably advanced in growth. If only small plants in 5 or 6-inch pots are desired, the autumn rooted will flower a month or six weeks earlier than the others. Thus there is room for both, while if good decorative stock, 2 to 3 feet high and "feathered" to the pot, are wanted the former will give it. By the express system, Fuchsia cuttings inserted in October have been grown, under favourable conditions and special treatment, into pyramidal plants some 6 feet high, and in full exhibition array of flowers the following July.

The cuttings should be inserted in light sandy soil, either singly in thumbs or six in a 3-inch pot, and plunged in a warm propagating frame. As soon as they are rooted the young plants should either be placed into 3-inch pots or potted singly, as the case may be, and kept in a light position to induce a short-jointed sturdy growth. A temperature of about 60°, with a rise from sun heat, is most suitable for the young plants, and plenty of water should be applied with a syringe in the morning and afternoon. This induces growth and tends to keep down insects. If the plants have all the light possible, and are kept as near the glass as consistent with space for growth, they will grow erectly and commence branching from near the soil.

Flower buds, if any appear, are nipped off, and if flower growths present themselves their points are pinched out. The finest Fuchsias I have ever seen for year old plants had the leaders stopped at about every 6 inches, and the side shoots at 3 inches of growth up to June, and then somewhat more closely to induce a denser habit for flowering.

In the winter the plants are kept gently moving in a warm greenhouse, 50° to 55°, and before the roots become much restricted for room the plants are placed in 5-inch pots. From there and before much root-bound they are transferred to 7-inch pots, and then into 9-inch, and, yet again, into 12 inch if so desired, always shifting just before a pinching of the shoots. The plants can be flowered in any of the sizes named, it being only a question of pinching.

Fuchsias will succeed in almost any soil, but two parts of turfy loam to one part of dried cow manure or old stable manure, with a sixth or sharp sand, well mixed and used in a lumpy state, forms a suitable compost. Good drainage must be provided. Liquid manure may be used with advantage as soon as the pots are filled with roots, alternating that of manure tanks with chemical fertilisers, not too strong, and always with at least one application of water between each manurial application. Plenty of air and a slight shade are necessary for Fuchsias grown under glass in summer, especially when flowering. But if not wanted to flower until late in summer, the plants do better outdoors from the beginning of June, affording them a sheltered situation, a moist base impervious to worms, and keeping duly watered and syringed. The plants can be taken indoors for flowering, or they will make a grand display in the late summer outdoors.—GROWER.



RECENT WEATHER IN LONDON.—Last Friday brought Londoners the record shade temperature for the year—namely 90°. Saturday and Sunday, too, were intensely hot, but with Monday came heavy local thunderstorms which left the atmosphere appreciably invigorating. On Tuesday there were many heavy showers, and on Wednesday it was warm and bright with rain at intervals.

— APPOINTMENTS OF KEWITES.—Mr. William Norman Sands, a member of the gardening staff of the Royal Botanic Gardens, has been appointed on the recommendation of Kew, by the Secretary of State for the Colonies, Curator of the Botanic Station in Antigua. Mr. Murdo McNeill has been appointed Agricultural Instructor in St. Vincent, and Mr. Albert John Jordan has been appointed Agricultural Instructor in Montserrat.

— CEPHALOTUS FOLLICULARIS.—The New Holland Pitcher Plant is certainly one of the most interesting and pretty kinds of that ilk, and very quaint-looking and delicate in structure. Although the plant is often described, any description must necessarily be very bald, and can give no clear idea of its actual appearance. If one describes a full-grown pitcher this is quite different than when about half-grown, and neither in shape, size, nor colour can two be found exactly alike. But it is a plant worth growing by everybody who takes a delight in the quaint and beautiful things in Nature. Its culture is not difficult where a suitable position can be found for it, cool and very moist conditions, with ample light, and yet no sunshine, suiting it best. Such conditions are easily obtained by growing it under bell-glasses, or in a close frame in a house devoted to cool Orchids or Ferns. The plants are grown in sphagnum moss and sand, with a little peat fibre, and plenty of crocks for drainage.—B. S. E.

— ANCIENT SOCIETY OF YORK FLORISTS.—Under the auspices of the above Society a floral service was held recently at Shipton. The church had been extensively and most tastefully decorated with flowers and plants kindly contributed by members of the Society. Every praise is due to the party who undertook the duties of decoration. A large number of members and friends journeyed from York, and there was a crowded congregation. The pulpit was occupied by the Vicar, the Rev. Gordon Salmon, M.A., chaplain to the Society, who preached an excellent sermon appropriate to the occasion, taking for his text Isaiah, 63 chapter, 11 verse—"For as the earth bringeth forth her bud, and as the garden causeth the things that are sown in it to spring forth, so the Lord God will cause righteousness and praise to spring forth before all the nations." The offertory was in aid of the Gardeners' Benevolent Institution. Flowers and other produce from the children and parishioners were given to the York County Hospital. Amongst the congregation were Mr. J. C. Milburn (Vice-president), Mr. Councillor Staines (Steward), Councillors Wilkinson, Milburn, and Robinson, with Messrs. J. Pillmoor, J. Key, J. R. Dawe, E. Allen, W. Cluer, W. Bean, J. Lazenby, T. H. Barron, B. B. Pannett, W. Todd, G. Lamb (Treasurer), and George F. W. Oman (Secretary).

— PRESENTATION TO MR. A. JAMIESON.—On Saturday last the pretty village of Heswall, Cheshire, held its eighth annual Show, which was in every respect a great advance on former shows. Mr. T. Brocklebank, J.P., spoke of the wide interest being taken in it. Since the opening of the Show Mr. Jamieson had always been the Judge, doing the work purely out of love for flowers and plants, and as a slight token of recognition of the appreciation of his services the Committee and parish hoped he would accept a silver cup. Mr. Jamieson in thanking the Committee and parish for their gift, said he had done the work to encourage and teach the cottagers to love and cultivate everything which would enhance and be useful in their homes. He wished every success to the Show. Mr. Jamieson is so well known by most gardeners and committees as to make further mention almost useless, but for the benefit of those to whom he is unknown, it may be mentioned that he presided with conspicuous ability over the gardens at Haigh Hall, near Wigan, Lancashire, one of the seats of the Earl of Crawford and Balcarres, resigning the important charge some few years back to commence a business on his own account at Neston, Cheshire, which is now most successful.—R. P. R.

— **DEATH OF MONS. FERDINAND BERGMAN.**—It is with regret that we learn of the demise about a fortnight back of Mons. F. Bergman, who was for a considerable period head of Baron Rothschild's gardens at Ferrières. The deceased was in his seventy-fourth year.

— **RYECROFT NURSERY.**—We are informed that this establishment, which has been so celebrated for its Chrysanthemums, Pelargoniums, Begonias, and other plants, is now making a further bid for popular favour by the addition of a seed and bulb department. Mr. H. J. Jones has appointed Mr. W. Logan, for many years with Messrs. Barr & Son, as manager.

— **TECOMA JASMINOIDES.**—As a handsome and free growing climber to cover large spaces quickly, this species is not sufficiently known. The blossoms are fairly large, not unlike those of *Dipladenia boliviensis* in shape, but with a deep crimson instead of a yellow eye. The plant roots readily from cuttings under a bell-glass, and these may be potted in fairly rich compost, shifted as they grow, and planted in permanent positions when large enough. The lighter the place the more freely the plants flower.—B. S. E.

— **CANADIAN FORESTS.**—The forest wealth of Canada is greater than that of any other country. The total area of the timber land is nearly twice that of Russia, the next rival, and likewise nearly twice that of the United States, which stands next and nearly equal to Russia. Ontario is the leading province in the export of timber, and sends the greater part of its product to the United States in the shape of planks, boards, logs, and shingles. Quebec ships most of its product to Great Britain, exporting spruce and other lumber, pine deals, and white pine timber. New Brunswick stands third in exports, while the resources of the other provinces are comparatively little developed, although British Columbia possesses the largest compact timber resources in the world, only a fringe of which has been cut. The Pacific coast is heavily timbered as far north as Alaska, and it is estimated that the Douglas pine, cedar, spruce, and Alaska pine along the railway line are worth 25,000,000 dol. There are also vast areas of undeveloped woodland in the entire north of the Dominion from Quebec to the Pacific coast, a large proportion of which is almost wholly unexplored.—("American Agriculturist.")

— **CHIRONIA LINOIDES.**—This is one of the best of the several ornamental species of *Chironia* cultivated in gardens, and is well worth a place in all collections of greenhouse plants, for in addition to being excellent for grouping in the conservatory or the greenhouse it is also useful for the decoration of rooms, if given a position where it will get a little sun. It is a S. African plant, and has been in cultivation upwards of a century. It was well figured in the "Bot. Mag." as long ago as 1801, t. 511. Like many other ornamental greenhouse plants, however, which were popular in the past, this has been lost sight of in many places for the quicker growing plants of to-day. In a few places it is still well grown, and when shown in quantity never fails to obtain plenty of admirers. It can be increased from cuttings inserted in sandy peat in a warm close case in spring. When the cuttings are rooted they should be potted singly in 2½-inch pots in sandy peat, and pinched frequently. When the pots are well filled with roots they must be moved into 5-inch pots, in which they will flower. The flowers are rosy red, half an inch across, and produced in abundance. The plant is rather rigid in habit, but the light glaucous foliage takes off any stiffness. Plants can be had in flower for several months during summer and autumn.—W. K.

— **NECTARINE LORD NAPIER.**—There are few varieties that will carry so heavy a crop with impunity as this, one of the most useful varieties in existence, and, until the introduction of Early Rivers, the best early sort in cultivation. It is still quite indispensable in a collection of fruit, for it fills a gap between these early kinds and the choice midseason and late varieties such as Elruge, Pineapple, Spencer, and others. The fruit is not so large as that of Early Rivers, but equally good in quality, and in the same house it forms a useful succession. In a cool house without any pipes it is now ripe, and was fit to send to table when the last fruits of Hale's Early Peach and Early Rivers Nectarine were done. As noted above, the variety is one that carries a heavy crop without injury, and often old weakly trees that seem quite beyond fruiting will finish up a medium crop in quite good order. The growth is fairly strong, and when treating young trees it is well to take a comparatively heavy crop the first season to prevent any approach to grossness. If by this means the tree is got into a free-bearing, not too weak habit, it is far better than root-pruning. Young trees of it and other varieties planted four years ago are now magnificent, and have carried large crops every season, though I have never touched the roots since planting.—H. RICHARDS.

— **CAMBRIDGE CHAIR OF AGRICULTURE.**—We are informed that Dr. Somerville, of the Durham College of Science, has been appointed to the chair of Agriculture at Cambridge. Mr. T. H. Middleton, B.Sc., has been appointed to the post vacated by Dr. Somerville.

— **CANNA IRIDIFOLIA.**—This is one of the older species of *Canna*, but a fine plant for garden display. The flowers are rose, and occur on tall, arching spikes, while the leaves are very handsome, and suitable for sub-tropical work. *C. iridifolia* is also one of the hardiest, and in fairly dry borders may almost be depended upon to pass the winter safely, provided a little dry ashes or some similar material is placed over the roots.—H.

— **AN IRISH LOCAL SHOW.**—On Thursday, August 17th, the annual Show of the Powerscourt Industrial and Cottage Garden Society was held in the charming demesne of Lord Powerscourt. The attendance was very good, and the entries were of high order. Apart from the Show the magnificent natural scenic attractions with which Wicklow is favoured, or to give a more fitting title, the "Garden of Ireland," were a great incentive to pleasure seekers, all contributing to make the respective display a success. The boys from the Glencree Reformatory discoursed selections of music. The bronze medal given by the Royal Horticultural Society for the best collection of vegetables, displayed by the tenants of Lord Powerscourt and Viscount Monck, was won by Mr. John McCann. To give a detailed list of the prizewinners would unfortunately take up too much place; enough to mention the exhibits were most creditable to their growers.—A. O'N.

— **A VALUABLE RUBBER TREE.**—Besides the Vines (*Landolphia*) and the Euphorbiaceæ of the south, there exists a tree met with on the east side of Madagascar which the natives designate Barabanja. This tree, which furnishes an abundant and much-prized latex, appears destined to play an important rôle in the future. There are two varieties, the one the more important, with large leaves, the other with small leaves. They belong to the family of the Apocynaceæ, tribe Alstonieæ. The Barabanja is abundant in the region comprised between Vohemar and the Bay of Antongil. The tree is found wild up to an altitude of 1300 to 1600 feet. It prefers the glades and borders of forests, and may attain to a height of 50 feet, with a circumference of 5 feet. Specimens of this size are, however, rare, for, about the age of eight or twelve years, the natives make excessive incisions, and very often even cut down the tree in order to gather the latex. The tree propagates itself readily from suckers, and it is to this that the present abundance of the tree is due. Very fine specimens are reported from the neighbourhood of Antalaha, Sahambava, and Soavinandriana.—("Kew Bulletin.")

— **POTATO BREEDING.**—The great world of Potato consumers, or the lesser world of Potato growers, know little of the labours of those few patient, persistent persons who have been the raisers of the many fine varieties that have been or now are in commerce. Thus there is that octogenarian raiser, Mr. Robert Fenn, still as enthusiastic over raising new varieties as he was in the youthful days of "Upwards and Onwards" half a century since, as I found when calling upon him the other day at Sulhamstead. Some three years since Mr. Pringle, the famous Potato raiser of Vermont, U.S.A., sent to Mr. Fenn an entirely new and evidently distinct *Solanum* species under the designation of *Solanum bulbo-castaneum*, from Guadalajara, in Mexico. This species is now growing in the form of three strong plants in an inverted Seakale pot in the little greenhouse there. The height of each plant is about 18 inches, stems single, fairly woody, erect, but after the fashion of *nilgrum*, sending off branches obliquely. Short jointed, the leaves closely resemble those of the common Sage in form and appearance but are rather larger. Flowers are small, greenish white, of ordinary *Solanum* form, borne in short racemes hanging like Currant blooms. They contain so little of pollen that none seems to self-fertilise, and all fall. The roots resemble the long stolons frequently seen on Potato plants, and they produce at the extremities very small white spherical tubers. At present the species has not the least commercial value; but Mr. Fenn has, after trying pollen on various garden varieties, succeeded in fertilising a flower on a Potato plant in the garden, and a fair-sized seed-apple is now seen maturing. What the product will be no one can tell, and time alone will show. The variety which has thus produced a berry is of an original cross of *Solanum Fendleri* with a garden variety *Antagonist*, a rough stock being the product. Mr. Fenn saved the best, and late in the season succeeded in cross-fertilising that with pollen of *International*, and the produce of that cross is now being tested, some being early, some late, some tall, some dwarf, and the parent, carrying a berry, is one of that product. A remarkably fine early Potato in quantity and quite new is a seedling from Woodstock Kidney.—A. D.

— **BERBERIS THUNBERGI.**—The prominence, profusion, and uniform good appearance of the Japanese Barberry, *Berberis Thunbergi*, mark it as one of the most desirable shrubs for the use of amateurs. Its numerous excellent qualities, says an American journal, set it apart from all other shrubs, and make it indispensable for small grounds. It is of comparatively low growth, and can easily be kept within bounds; its lively green colour makes it attractive all summer; it takes on beautiful autumn colours, and its crop of pretty berries hold on till late in winter. It is also hardy, and easily grown.

— **RESTING CALADIUMS.**—These plants will soon be over for the season, and in all probability nine growers out of ten will place the pots containing the bulbs in some hot dry corner, and leave them to look out for themselves until the time comes for starting them again. Though they doubtless like a complete rest, it is quite wrong to dry them off suddenly and entirely, this leading to their starting weakly in spring. They should be well ripened by exposing them to sun and air now, and reducing the moisture supply by degrees until the bulbs are quite hardened, and the foliage has fallen. Then for a week or two they may be absolutely dry, and should never be kept in a temperature less than 35° if it can be avoided. Another mistake sometimes made is giving the plants a shift into new pots late in the season. The roots are disturbed that should be supplying nutriment to the rapidly finishing bulbs, and, in consequence, these are starved. In no case ought the plants to be shifted after the 1st of June, as by this time, if properly grown, they will have reached their zenith of growth. If they are in smaller pots than seem desirable, the nutriment may be kept going by feeding with artificial stimulants.—C. H. B.

— **GARDENING INSTRUCTION IN WORCESTERSHIRE.**—The Worcestershire County Council has committed for eight years the management of horticultural instruction to the County Union of Workmen's Clubs and Institutes. This body was fortunate enough to secure, as the first instructor, Mr. James Udale, and in 1893 Mr. Quintin Read was added to the staff as assistant. The work of the instructors was not only in lecturing and demonstrations, but also in visiting allotments and gardens to give advice to the cultivators. The result has been a steady improvement in cultivation in many parts of the county, recognised frankly and generously by the County Council. A county experimental garden of two acres was opened at Droitwich early in 1896 under Mr. Udale's management, and his annual reports thereon are widely circulated and read. Mr. Read being about to retire, after good service, it became necessary to choose another assistant instructor, the salary offered being £150 per annum, with railway expenses. There were ninety candidates in all, from all parts of the British Isles. Five of these were selected to attend in person at Worcester on August 26th, before the Gardening Instruction Committee, Lord Cobham being in the chair. After full consideration, Mr. James Lansdell, of Barkby Hall Gardens, near Leicester, was unanimously appointed to commence duty on October 1st.

— **POTATO ODDITIES.**—By special request I was the other day permitted to see the Potato oddities which Messrs. Sutton & Sons are growing in their Seed Farm at Reading, products of certain graftings duly reported upon at the time of performance, and fully referred to in Mr. Arthur Sutton's now famous illustrated lecture on Potatoes. But in detailing those very interesting graft performances, Mr. Sutton could not for one moment have anticipated what would happen to the root-progeny of the Potatoes grafted on to Tomatoes, or *vice-versa*. One of those grafts was a Tomato on to a stem of Victoria Potato. The tuber produce was grown last year, and again that season's produce is this year grown both at the seed farm and the nursery. In both cases the results are identical, for the Potato plant is dwarfed to quite one-third of its normal height. Then of Perfection Tomato grafted on Victoria, the plant growth this year is not one-half that of the ordinary plant. But the strangest thing of all is seen on the product of *Solanum nigrum* grafted on Victoria, for here not only is the plant greatly dwarfed, but has actually become abundantly fruitful, producing seed apples freely. That is, as every Potato grower knows, a most unusual thing for the Victoria plant to do. Another odd product is seen in the plants resulting from sowing and planting the stem on adventitious tubers, produced by Woodstock Kidney grafted on a Tomato stem, for the plants now growing are very diverse, not at all resembling the original variety of Woodstock Kidney. Ham Green Tomato worked on Supreme Potato has also produced very diverse plants from the latter varieties. These were all curiosities in vegetable life that, if productive of no commercial value, yet were singularly interesting.—A. D.

— **PAPYRUS ANTIQUORUM.**—Re the "noble" Papyrus. Kindly allow me to thank Mr. Elliott for his information respecting its adaptability to cooler conditions than those of a strictly tropical house. I may add that specimens previously seen required some assistance in the way of support, hence his details of culture are not only timely but of twofold value.—K, Dublin.

— **HEDYCHUM GARDNERIANUM.**—The pretty flowers of the "Ginger Plant," as this has been called, are very sweetly scented, and a large plant or two in a conservatory fills the house with its pleasant fragrance. The plants are very easily cultivated, and flower on the end of the herbaceous shoot in late summer, the time averaging according to that at which the plants were started and the heat they are subjected to. They should be allowed rather large pots, as the roots are very large and fleshy, and soon fill pots of small diameter. The compost may consist of equal parts of good fibry loam and leaf mould or peat with a liberal addition of either artificial or well dried cow manure. Keep it on the dry side in winter, and in a fairly cool house.—R.

— **FRUIT EATING.**—There is a widespread belief that it is dangerous to eat the summer fruits in hot weather. This is a greatly mistaken idea. It is, however, the natural result when so many summer sicknesses, sometimes fatal, are set down as due to eating fruit. Immoderate eating of fruit, says the "American Cultivator," or eating it under wrong conditions, will always account for such cases. Fruit that is well ripened, free from decay, and that is eaten with other food will never harm anybody if eaten moderately. In hot weather it is especially dangerous to overload the stomach with any kind of food. The heated air does not give the body sufficient energy to digest the food, and it ferments. The practice of taking a few minutes' exercise, sufficient to expand the lungs early in the morning, is always a good one in hot weather. The lungs, having been once expanded after their cramping during the night's rest, the breathing will be deeper through the day, and this will invigorate all the organs of the body.

— **STAPELIA GIGANTEA.**—Recent discoveries point to the fact that in size and distribution this plant is the most remarkable of the whole tribe of Stapeliæ. Not only has it very much larger flowers, but its geographical range is vastly more extensive than any other known species, as the plants of this tribe are notably somewhat local or restricted in their distribution. *S. gigantea* was originally discovered by Mr. R. W. Plant, whilst collecting in Zululand, and at his death a living plant was brought, with the rest of his belongings, by his Caffir servants, to Durban, Natal, where it is recorded as having flowered in 1860; and a portion of that plant was brought alive to England by Mr. T. Cooper, in 1862. It was next collected by Gerrard, in 1861, near the Umvelosi river, in Zululand. Since then it has also been found on the Magaliesberg range, and near the Nylstroom river, in the Transvaal. In 1887 a specimen and a living plant were sent to Kew by Professor MacOwan, collected at Walfisch Bay, in Great Namaqualand, quite the other side of the continent. And, lastly, specimens were sent to Kew, in 1897, from British Central Africa, by Mr. Kenneth J. Cameron, who states that it is "found growing wild at Namasi," in Nyasaland. This species has a range, therefore, through about thirteen degrees of latitude and seventeen degrees of longitude, being found within and without the tropic, and on both sides of the Continent of Africa.—N. E. BROWN (in "Kew Bulletin.")

METEOROLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day. Night			At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1899.										
August.										
Sunday .20	N. N. E.	deg. 69.1	deg. 63.0	deg. 74.9	deg. 53.5	ins. —	deg. 60.3	deg. 65.1	deg. 62.1	deg. 45.5
Monday..21	E. N. E.	62.0	55.5	73.8	48.2	—	65.5	64.9	62.1	36.9
Tuesday .22	S. E.	63.0	58.2	75.1	45.0	—	64.9	64.7	62.1	36.9
Wed'sday 23	S. E.	63.4	62.4	79.1	50.9	—	64.9	64.3	62.1	41.3
Thursday 24	S. E.	70.9	64.7	85.5	60.5	—	66.0	64.5	61.9	51.5
Friday .25	S. E.	79.9	65.3	87.1	55.9	—	67.1	64.7	61.9	45.1
Saturday 26	N. N. E.	70.1	61.7	82.1	51.5	—	67.9	65.1	61.9	42.5
MEANS ..		69.1	61.5	79.7	52.2	Total. 0.00	66.1	64.3	62.0	42.9

The weather has again been very hot and dry, with high winds mod. v from the South.



LÆLIO-CATTLEYA WIGANÆ.

THE bigeners that come within the category of Lælio-Cattleyas are rapidly becoming numerous, and comprise some of the handsomest flowers in the entire Orchid family. Additions are constantly being made, and some of them, such for example as Lælio-Cattleya Wiganæ (fig. 39), are of striking merit. This was exhibited on the 15th inst. by Mr. W. H. Young, Orchid grower to Sir Frederic Wigan, Bart., Clare Lawn, East Sheen, and was recommended a first-class certificate by the Orchid Committee. It is one of the most strikingly beautiful flowers we have seen. It is said to be from a cross between Lælia purpu-

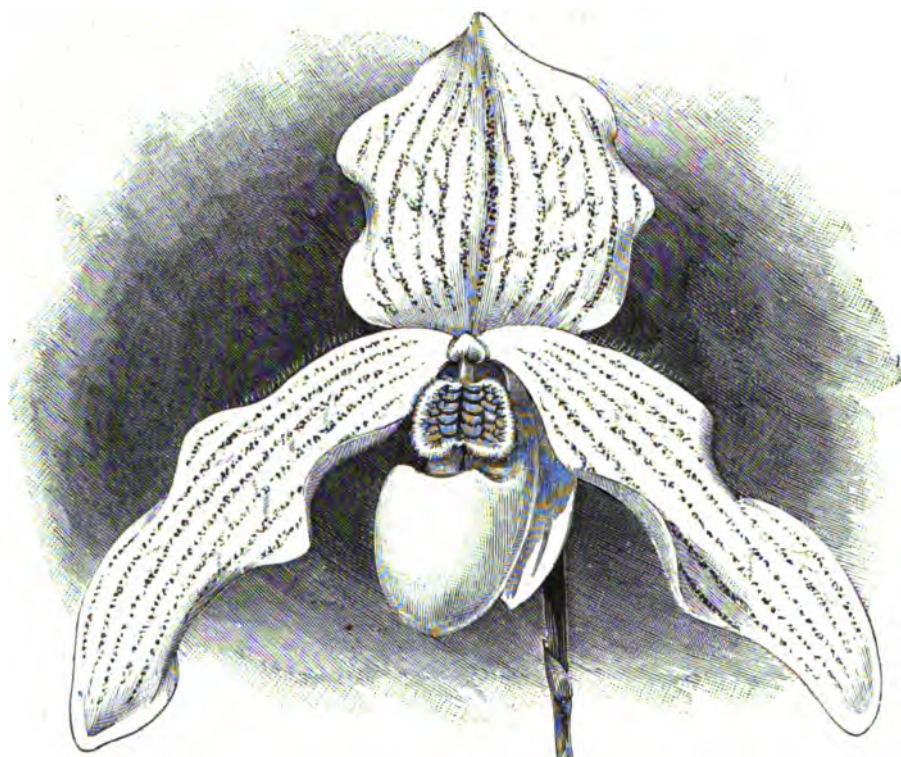


FIG. 38.—CYPRIPEDIUM VIPANI.

rata and Lælio-Cattleya Dominiana. The sepals and petals are soft rose with a purple suffusion. The superb lip is rich velvety crimson purple.

LÆLIO-CATTLEYA CLONIA.

This is a most beautiful hybrid, raised from *C. Warszewiczii* or *C. gigas*, crossed with *Lælia elegans* Turneri. It was first shown by Messrs. J. Veitch & Sons on October 23rd, 1894; and has since been raised in other collections, both at home and on the Continent. The various stocks, and indeed the individual seedlings, vary considerably as regards their colours, some being much deeper than others, but all are of great beauty. It will succeed in the warm Cattleya house, grown alongside either of its parents, and is a plant of easy culture; and now, when Cattleya flowers are getting scarce, is a much-admired object, as the flowers are some 7 inches across, with an intensely coloured lip. It is an Orchid worthy a place in any collection of Cattleyas.

CYPRIPEDIUM NIVEUM AND SOME HYBRIDS FROM IT.

EVERY grower of Cypripediums knows this little gem, and many will also know the difficulty there is in keeping it in a satisfactory condition. The conditions laid down for the cultivation of *C. bellatulum* will be found to answer its requirements, although not being such a strong grower, less pot room will suffice. In the hybridiser's hands this plant has undoubtedly produced some of the most beautiful Cypripediums in cultivation, and no doubt there are many more of these lovely gems to follow as time goes on. Since its introduction in the year 1868 the following, with others, have been raised and

flowered, and some of them are extremely scarce at the present time. These hybrids will succeed under the conditions in which *C. niveum* thrives.

Firstly we will take *C. Aphrodite*, the reverse cross of that beautiful Cypripedium figured on page 117—namely, *C. Antigone*. Its flowers are white, spotted and stained with rose purple; the sepals and petals have a greenish stain at the base. The leaves of this variety, like *C. Antigone*, are scarcely less beautiful than the flowers. It received a F.C.C. from the R.H.S., September 12th, 1893.

C. Antigone was described on the page before mentioned. It is sufficient to state that this plant received certificates from the R.H.S. both in 1890 and 1891.

C. Aylingi is a most beautiful form raised by Mr. Ayling, gardener to A. J. Hollington, Esq., Enfield. It is a cross between *C. niveum* and *C. ciliolare*. The sepals, petals, and pouch are pure white, furnished with small purple spots, which are arranged in lines; the segments are rather narrow. The Orchid Committee of the R.H.S. appreciated it by awarding a F.C.C. in June 1890.

C. Cowleyanum is a hybrid between *C. Curtisi* and *C. niveum*, and is a much stronger grower than the majority of this family, approaching *C. Curtisi* in this respect. Although the leaves are much thicker, the flowers in some particulars bear resemblance to that species, but the petals are wider and the colours different. The ground colour is white spotted with clear dark purplish-crimson lines, the spots being so placed as to leave a white margin all round. It was raised in the gardens of F. G. Tautz, Esq., of Ealing, by his gardener, whose name it bears.

C. Cowleyanum var. *Annie Louise*, a variety of the preceding, is said to have been raised from the reverse cross. It shows more *niveum* blood, but not bearing so many spots, with more distinct lines of a beautiful rose colour; the pouch is white at the base, the top being a beautiful claret rose. It was raised in the gardens of G. W. L. Schofield, Esq., and received an A.M. from the R.H.S., May 19th, 1896.

C. Jeanette is a cross between *C. niveum* and a hybrid—namely, *C. Leeanum*, and is a most beautiful Cypripedium, being pure white dotted all over with small spots of a very pretty rose colour. It is not quite so large as some of the others, but is indeed a refined and beautiful flower. It was raised, I believe, in the gardens of C. H. Palmer, Esq., of Trowbridge.

C. microchillum, another very interesting and pretty hybrid, was raised from *C. niveum* and *C. Druryi*, and, like the preceding, is of dwarf compact habit. The flowers are broader than *C. niveum*, having a roundish upper sepal, which is white with a central spotted crimson bar, and slight indications of other lines. It was raised by Mr. J. Seden, and received an A.M., May 28th, 1893.

C. Mrs. E. V. Low is supposed to be the offspring of *C. niveum* and the useful old species *C. insigne*. It is a most chaste and lovely flower, the petals and sepals being white spotted with crimson; the dorsal sepal is green at the base spotted with brown, and has a broad white margin with a pouch of a pale greenish white. It is a beautiful flower, and well merited the A.M. which it received on June 29th, 1897, when shown at the Drill Hall by Messrs. Hugh Low & Co.

C. Muriel Hollington is another hybrid raised by Mr. Ayling with the same parents as the preceding, which in many ways it resembles, although it is quite distinct. The flowers are white, spotted, and barred, with small spots and lines, also veined with light purple, and follows *C. niveum* in shape perhaps more than any other.

C. Tautzianum is, so far as I can learn, the first hybrid in this section to have flowered, having been named as far back as 1886. It was raised in the nurseries of Messrs. J. Veitch & Sons by Mr. J. Seden, and named after Mr. F. G. Tautz, who at that time, I believe, possessed one of the most complete collections of this interesting family. The flowers are large, and are distinguished by the predominance of a rich vinous purple colour in all the segments, with some white interspaces and margins. The centre of the upper sepal is tinted with pale green, and has a dark purple mid-vein, with one or two green veins on each side of it; the petals are fringed with blackish hairs, and the pouch is dark purple; the unfolded lobes are warty. It is a cross from *C. niveum* and *C. barbatum*, I believe, and received a F.C.C. January 10th, 1887. *C. Tautzianum lepidum* is a variety of the preceding of a brighter colour and clearer markings.

It had for one of its parents *C. barbatum Warneri* instead of the typical *C. barbatum*.

C. Vipan is perhaps the loveliest flower (fig. 39) of the whole family, but is apparently a bad grower; although shown as far back as May 25th, 1892, when it received a F.C.C., it still remains scarce. The pouch or lip is pure white, excepting a few minute dots on the side lobes, with a faint trace of yellow on the nerves. The sepals and petals are white, with a slight trace of yellowish green at the extreme base, marked with longitudinal lines of bright purple, the lower sepals being not so well marked as the petals. It was raised by Captain Vipan, and named after him by Rolfe in 1890.

The foregoing does not exhaust the list of this beautiful section, but I think I have enumerated enough to give an outline of their general characteristics, and to show that they are worthy of all the trouble that is necessary to produce them in perfection.—J. BARKER, *Hessle*.

SHOWS.

SHREWSBURY.—AUGUST 23RD AND 24TH.

As may have been gleaned from the wired particulars which appeared in last week's issue, this great Show was indeed a marvellous one, the general opinion being that it undoubtedly surpassed all previous exhibitions held at this famous horticultural centre, and

prize offered for twelve bunches of Grapes, and the display [brought together fully proves the wisdom of the Society in offering such handsome prizes, for undoubtedly that class was the centre of interest to gardeners] generally, notwithstanding the fact that the superb groups exhibited formed the most noteworthy feature in regard to effectiveness.

Once more a great prize has gone over the border, and ere this the words will have rung throughout the land, "Scotland has won!" 'Tis only the country, though—the man is an Englishman. The masterly manner in which Messrs. Admitt and Naunton—sided by their intelligent and hard-working Committee—managed to run the machinery of their great Show wins the admiration of all concerned, and again they are able to announce a record in attendance. The weather on both days was extremely hot, yet the visitors kept streaming in under a broiling sun. By noon on the second day the Quarry grounds began to show signs of crowding, yet others trooped in as fast as they could pass between the barriers, and trains by the dozen were still pouring in their living freight, while each of the many winding streets was already packed with eager faces, faces which were upturned to the brightly coloured flags that waved above, and seemed to stir up the spirit of enthusiasm in the mighty crowd. Onward they pressed to play their part in the grand triumph of the hour.

GROUPS.

These delightful combinations have long been a great feature of Shrewsbury Shows, as the substantial prizes offered induce the foremost exhibitors to measure strength in the

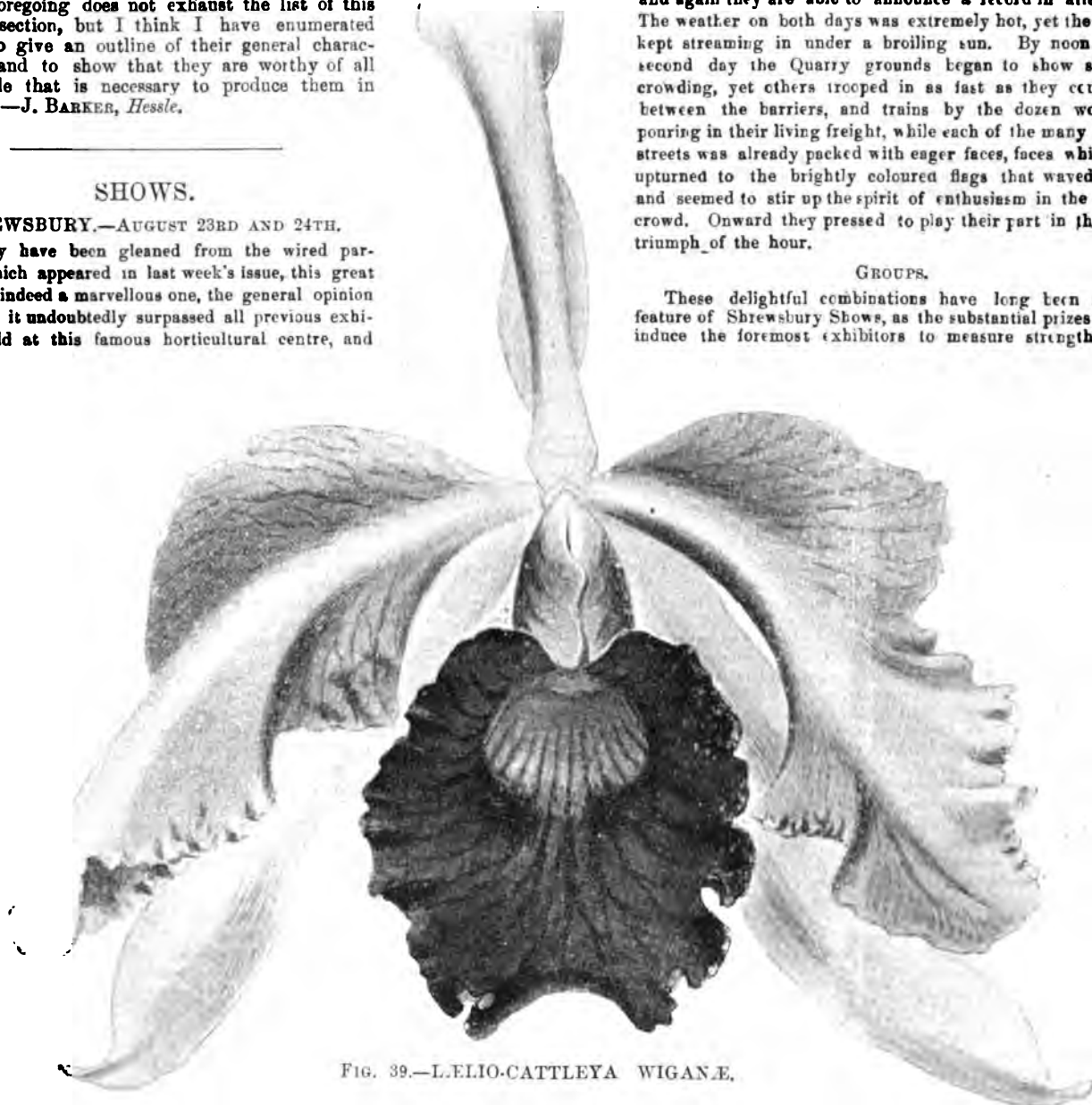


FIG. 39.—LELIO-CATTELEYA WIGANÆ.

Salopians have good reason to be proud that they have built up from small beginnings a show which for magnitude and all round excellence stands without a rival in Britain. Its fame has spread throughout the land, and each year vast numbers of gardeners look forward with zest to their pilgrimage to Shrewsbury, where, on the day of the show, may be found a greater number of notable horticulturists than in any other town in Britain.

On the eve of the Show they begin to muster in strong force, and many are the hearty greetings exchanged, and keen the "chaff" passed round. Sturdy Scots from the land of the Thistle, genial Irishmen, gallant sons of Wales, and Englishmen from far and near, rub shoulders and chat together on the topics of the hour. This year unusual interest attached to the gathering on account of the great

struggle for supremacy against foemen "worthy of their steel." The result is that new departures in style are often attempted there, and worked out with the artistic taste and wonderful ingenuity of master hands. This year the exhibits in this section were so numerous and good throughout that several extra prizes were awarded. The groups in the principal classes being arranged along the central portion of a huge tent, afforded an excellent opportunity to display them to advantage, and these, together with the gigantic specimen and lofty Palms in the plant classes, formed in themselves a show worth going miles to see.

£25, £17, and £10 were the amounts offered for plants in and out of bloom arranged to produce the best effect in a space of 300 square feet. The contest for the premier position was a very close one, and gave the expert Judges a considerable amount of trouble. The victor eventually proved to be Mr. P. Blair, gardener to the Duke of Sutherland, Trent-ham Hall Gardens, whose arrangement was a vision of loveliness, unio-

in conception, and splendidly executed. A good background was formed of Palms and Bamboos, in front of which the great feature stood out boldly. The idea of this seemed to be a huge basket having pockets and projections, the whole being covered with moss. From the centre rose a shapely plant of *Cocos plumosa*, and around some of the lower leaves long trails of a yellow *Oreohid* seemed to climb in a natural way. Beneath, the *Cocos*, *Odontoglossums*, and *Masdevallias* were freely intermixed with light foliage plants and Mosses, the projections being also dotted with similar materials, and trailing plants draped the sides of the basket with *Oreohid* peeping between them here and there. Prominent mounds were formed near the corners of the group, these being lightly arranged with *Oreohids* and foliage plants, and topped with *Coros Weddelliana*. A couple of tall slender plants of *Dracena Sanderiana* occupied prominent positions; other little mounds rose here and there, and *Odontoglossum* sprang from a basket of moss and plants of lowly growth, the pot being well finished with *Lycopodium Apollo*, *Orchids*, and elegant foliaged plants. The great idea was the centre; this stood out boldly, and every other plant employed could be clearly seen, not at a glance, but by changing the position to get an additional pretty peep.

The veteran from Cheltenham, Mr. J. Cypher, followed extremely close with one of his characteristic arrangements. A lofty *Kentia* formed the central object near the background, which was flanked on either side with Bamboos, and filled in beneath with flowering and foliage plants. Near the corners in front two cork arches were raised; these were each surmounted by plants of *Humea elegans*, the arches being draped with creepers and dotted with brightly coloured flowers and foliage. A wavy outline of irregular mounds formed the front, this being dotted thinly with plants. The body of the group was filled in with *Orchids* and other choice flowering plants in variety, with prominent little specimens springing up here and there, the whole forming an extremely showy and effective combination with plenty of features, yet with no single feature standing out boldly from the rest. The third prize went to Mr. W. Finch, Coventry, who also arranged a fine and effective group in which arches and cork were employed to advantage. The plants, too, were well grown, the whole arrangement a credit to the exhibitor. An extra prize of £5 was awarded to Mr. W. Vause, Leamington, who also arranged an excellent group.

Prizes of the same value as those in the preceding class were offered for groups of foliage plants to occupy a space of 300 square feet. The premier position in this was splendidly won by Mr. Cypher. A bold arch crowned with a beautiful specimen of *Phoenix*, and lightly dressed with Ferns, *Crotons*, and trailing plants, formed the background; underneath the arch was placed a grandly coloured *Croton*. Other arches were formed near the corners, prominent mounds raised in the body of the group and foreground; these were arranged with great skill, a due proportion of tall *Cocos Weddelliana* and other graceful plants being employed, while brightness was supplied with *Crotons*, *Caladiums*, and *Begonias*. A series of pretty peeps and good individual features were thus obtained, and the arrangement was certainly one of Mr. Cypher's greatest achievements.

Mr. Mee, the Floral Depot, Nottingham, was second. A towering *Kentia* was a prominent feature in the background of his group, and *Cocos plumosa*, *Cocos Weddelliana*, and *Dracena Sanderiana* were conspicuous features at other points, where mounds of various sizes were raised. The whole was well finished and lightly arranged, but lacked the individuality of the winner. The third prize went to Messrs. Artindale & Sons, Sheffield, for a very showy exhibit, yet lacking distinct features. A special prize of £7 10s. was awarded to Mr. Roberts, gardener to Miss Wright, Oswestry, for an effective arrangement, representing a model garden. Mr. Vause received a special award of £5, and a similar honour fell to Mr. Brummell, gardener to H. H. France Hayhurst, Esq., Wellington, Salop.

For a group to occupy a space of 150 feet, open to the county of Salop only, Mr. E. Roberts, gardener to Miss Wright, Oswestry, was a good first, winning the £10 offered with an attractive arrangement, in which cork covered arches were a prominent feature. The second prize of £6 went to Mr. Tugwood, gardener to F. Kynnersley, Esq., Leighton Hall, Ironbridge, and the third to Mr. Grimmex, gardener to W. Phillips, Esq., Berwick House.

SPECIMEN PLANTS.

These were shown in exceptional condition, and the lofty Palms, huge *Crotons*, and flowering plants made a grand display in the centre of the large tent, which was 500 feet in length. For twenty stove and greenhouse plants, not less than twelve to be in flower, the first prize was £25, and the second £15. The post of honour was easily secured by Mr. Cypher, who staged magnificent Palms, grandly coloured *Crotons*, and the following flowering plants:—*Ixora Duffii*, fully 5 feet through, carrying enormous trusses of flower, probably the finest specimen of its kind ever staged; *Phenocoma prolifera* Barnesi, upwards of 6 feet in diameter; *Bougainvillea Sanderiana*, fine; *Stephanotis floribunda*, densely flowered; *Allamanda nobilis*, *Statice intermedia*, *Ixora Williamsi*, and the following *Ericas*—*oblate purpurea*, *Marnockiana*, and *Aitoniana*. The second prize went to Mr. B. Cromwell, gardener to T. S. Timmis, Esq., Allerton, Liverpool, who staged many large plants of *Ixoras*, but they were not as a whole well flowered. The Palms and a large *Stephanotis* were, however, grand. As no third prize was offered a special of £5 was awarded to Mr. Finch for an exhibit not greatly behind the second prize one.

The class for thirty stove and greenhouse plants in pots not exceeding 10 inches and not less than twelve in bloom, was an interesting one, and brought Mr. Cypher to the front again with a smart exhibit. The

Ixoras in particular carried highly coloured, well-developed flowers. The most noteworthy plants were *Ixora regina*, *Ixora Williamsi*, *Statice Gilberti*, *Ixora Duffii*, and *Crotons Mortefontaineensis* and *Johannis*, brilliantly coloured. Mr. F. Lambert, gardener to Lord Harlech, Brogntyn, Oswestry, was second with larger plants, but, except in a few instances, they were not quite so well flowered or so well finished as those of the winner, still they made a fine display; third Mr. Cromwell. The prizes in this class were £20, £15, and £10 respectively, and an extra of £5 was awarded to Mr. Mee.

For a single specimen in flower, Mr. Cypher won with a good example of *Erica Ewerana*; second Mr. Vause, with *Allamanda Hendersoni*; and third Mr. Lambert, with *Ixora Williamsi*. For six *Dracenas*, the last named exhibitor scored with well coloured plants, the second prize going to Mr. J. Bird, gardener to Capt. H. G. Butler, Shotton Hall, Shrewsbury, and the third to Mr. Cromwell. The latter exhibitor also won for a like number of *Caladiums* with fresh highly coloured specimens, Mr. R. Lawley, gardener to Mrs. Darley, Adcote, being a good second. *Coleus*, though trained in a rather formal pyramidal style, were in some instances very good. The first prize for six was won by Mr. J. Cartex, gardener to J. Scott, Esq., Bestrea House, second Mr. T. Stewart, gardener to J. H. Slaney, Esq., Wellington; third Mr. Every, gardener to Dr. E. Bird, Shrewsbury.

Mr. A. Myers, Shrewsbury, won for six *Fuchsias*, being followed by Mr. Cartex and Mr. A. Bateman in the order named. Mr. E. Jones, Wellington, won for six *Begonias*, Mr. Bateman being second, and Mr. Cliffe third. Six double "*Geraniums*."—First Mr. Bateman, second Mr. Myers, third R. Taylor, Esq., Abbey Foregate. Six Zonal "*Geraniums*" were well shown, the winner, Mr. A. Myers, Shrewsbury, staging dwarf, densely flowered specimens, second Mr. A. Bateman, third Mr. Cliffe. The prizes for *Gloxinias* were won by Messrs. Barber, Bateman, and Smith in the order named. For twelve table plants, Mr. Mee was first with light graceful specimens in every way suitable for the purpose.

The best half dozen exotic Ferns came from Mr. C. Jones, gardener to A. M. Barber, Esq., Field House, Wellington, who was strong in choice *Adiantums*. Second, Mr. Mee, Nottingham. Third, Mr. F. Stevenson, Sunny Croft, Wellington.

MISCELLANEOUS PLANTS.

In a collection of thirty grown in pots, not exceeding 5 inches, not less than twenty being in bloom, the prizes were won by Captain Butler, Mr. C. J. Mee, and Mr. G. Buir, Shrewsbury, in the order named.

SALOPIAN CLASSES.

These were generally well filled, and the quality was distinctly ahead of that of some former years. For six stove and greenhouse plants, £6, £4, and £3 were the amounts offered as prizes. Mr. T. Lambert was a safe first, and staged among others a fine *Kentia*, good *Dipladenia hybrida*, and well flowered *Eucharis amazonica*. Second, Mr. R. C. Townsend, gardener to Col. Lloyd, Ashton Hall, Oswestry. Third, Mr. J. Carter, gardener to W. Scott, Esq.

For six stove and greenhouse plants not less than three to be in flower, the prizes went to Mr. G. Burr, Mr. R. Taylor, and Mr. W. Scott in the order named. Competitors in the previous class were debarred from entering in this. Mr. Bateman won for *Fuchsias*, Mr. Barber for *Begonias*, and Mr. J. Scott for both double and single *Geraniums*.

FLORAL DECORATIONS.

The classes devoted to these exhibits were well filled, except in the great one, in which six bouquets and the same number of baskets were required. Only two exhibits staged in this, and the famous firm of Perkins, of Coventry, was unfortunately not represented; still the winning exhibits in some classes were marvels of artistic taste and good finish.

The handsome prizes of £15, £12, and £10 were offered in the great class for baskets, staged in a space 10 feet by 5 feet, tasteful staging being considered by the Judge, in addition to the flowers exhibited. The winners proved to be Messrs. Jenkinson & Sons, Newcastle, Staffs. The flowers in each of their bouquets were arranged in a groundwork of *Asparagus*, with long trails hanging from the sides. They were shapely and lightly formed, the finish being good; but the addition of a few lighter sprays of flowers would in some instances have been an improvement, as in the attempt to conceal the wires many of the flowers were kept rather low, and the greenery a little too freely employed; the exhibit was, however, undoubtedly placed in the right position. One striking bouquet was formed of *Masdevallias* and *Oncidium flexuosum*; others with *Oncidiums* and *Epidendrums*, or *Cattleyas*, *Odontoglossums*, *Panorati* and *Eucharis* being conspicuous in another, the baskets being generally arranged with similar materials in a freer style. Messrs. Jones and Sons were second with light and free arrangements, which lacked the finish of the winner. A special prize of £5 was given by the President of the Society, Rev. T. M. Berkeley Owen, to the victor in this class.

Messrs. Jones & Sons scored in the class for ball and bridal bouquets with tasteful arrangements, one being formed principally with *Odontoglossums* and *Panorati*; the other with *Cattleyas*, *Odontoglossums*, and *Carnations*. Messrs. Pope & Sons, Birmingham, were second with larger and heavier arrangements. Third, Messrs. Artindale & Sons, Sheffield. For two similar bouquets, *Orchids* excluded, Mr. W. Treseder, Cardiff, was a good first with most tasteful exhibits, in which the flowers stood well up. *Eucharis*, *Panorati*, and *Fracon* were conspicuous in one; *Lapagerias*, Lilies, and pink *Roses* in another.

For a bouquet of *Dahlias*, Mr. Treseder was deservedly first with a stylish arrangement, only one variety being employed, this was Countess

of Gosforth; Messrs. Pope & Sons were second, and Mr. Seale, Sevenoaks, third. Mr. Treseder again scored for a bouquet of Roses, employing in this instance the well known W. Allen Richardson, intermixed with a dark crimson one; Messrs. Pope being second, and Messrs. D. & W. Croll, Dundee, third.

For a featherweight bouquet, Messrs. Jones & Sons, Shrewsbury, won with an extremely light arrangement of Asparagus, Francoa, and Calliopais; Messrs. Gunn & Sons were second, and Mr. Seale third.

A handsome and well arranged basket won for Messrs. Jones & Sons the premier position, Montbretias, Pancratiums, and Lilies being the flowers most freely used; second, Mr. Treseder; third, Mr. Lashmore, Market Drayton.

For a dressed flower stand, not to exceed 18 inches in diameter at the base, Mr. Seale was first with a very light and pretty arrangement, Montbretias, yellow Statice, Selaginella, and Asparagus being the principal materials used; second, Messrs. Jones, with a very light arrangement of Oncidiums and Cattleyas, but scarcely enough greenery had been used to give finish; third, Mr. Vause, Leamington. Messrs. Jones & Sons were first for six buttonholes and six sprays, which were tastefully made; second, Messrs. Jenkinson & Sons; third, Mr. F. Morris, Handsworth.

OTHER CUT FLOWERS.

In the majority of the classes these were largely shown and added materially to the attraction of the exhibition Dahlias, Carnations, Gladioli, and hardy herbaceous plants were particularly good, and the practice which prevails at Shrewsbury of providing classes for groups of such useful cut flowers as Roses, Carnations, and Dahlias is a good one, which enables the exhibitors to make imposing displays. For a collection of Gladioli, to occupy a space 12 feet by 5 feet, Messrs. Harkness and Sons, Bedale, were an easy first, staging spikes of brilliant colour and great substance. Striking varieties were Madame P. Palmer, Mr. Admitt (new), and "Shrewsbury." Mr. Morren, Leominster, was second with much smaller spikes. Messrs. Croll, Dundee, won easily for a collection of Roses, staged in a space 8 feet by 5 feet, the Tea and Noisettes being the best among them. Messrs. Pope & Sons were second.

Dahlias.—For a collection of any varieties Messrs. Keynes, Williams, and Co., Salisbury were first. The Cactus and Pompons were arranged in pyramids, and the Show and Fancy varieties on boards. The flowers were bright and fresh, and the exhibit as a whole effective. Casilda, yellow, and Mary Service were noticeable vars. Mr. W. Treseder was second, and Mr. Seale, Sevenoaks, Kent, third. The same firm won for Cactus varieties with an extremely good stand of brightly coloured flowers of the leading varieties. Notable flowers were Laverstock Beauty, Debonair, Standard Bearer, Exquisite, and Mr. J. J. Crowe, a fine pale yellow (new). Messrs. Pope & Sons were second, and Mr. M. Campbell third.

The class for twenty-four Show and Fancy was a good one, the competition being close. First, Mr. Seale, who had Goldfinder, Harry Hickling, and Alice Emily in fine condition. Second, Mr. Mortimer, Duke of Fife and R. F. Rawlins being two of his best flowers. Mr. Seale also won for twelve bunches of Pompons. Mr. Mortimer was first for twelve Cactus Dahlias with a thoroughly well staged collection of flowers; Britannia, Capstan, and Keynes's White were conspicuous among them.

Hardy Flowers (annuals and shrubs excluded).—Messrs. Harkness and Son made a magnificent display of these, and easily won the premier award. Liliun Batemanni, Liliun auratum, Gladiolus Aurora de Feu, and G. Childs were especially striking. Messrs. Gunn & Sons, Olton, Birmingham, were second with a good exhibit, but the flowers generally lacked the substance of those in the winning stand.

Carnations.—Mr. M. Campbell, Blantyre, had no difficulty in winning for a collection staged with their own foliage and buds. Striking flowers were Miss Abbey (grand new yellow), Mrs. McNish, Germania, and Stevenson's Scarlet. Second, Messrs. Laing & Mather; third, Messrs. D. & W. Croll.

Roses.—For twenty-four single blooms in not less than eighteen varieties, Messrs. Croll won with a stand containing many fine flowers, Maman Cochet, Caroline Testout, and Her Majesty being some of the best. Second, Messrs. Harkness & Sons.

Sweet Peas.—These were a great source of attraction to visitors, and almost filled one tent. Mr. H. Eckford, Wem, offered a silver challenge cup for the best thirty-six varieties of Peas, the cup to be won three times before becoming the property of the holder. Mr. Bolton was successful, and staged good flowers of the leading varieties, Countess of Powis, Prince of Wales, and Duke of Westminster being a few varieties which took the eye. The same firm offered prizes of £3, £2, £1, in the class for eighteen varieties. The premier award was easily secured by Thos. Adersley, Esq., whose flowers were wonderfully large, fresh, brightly coloured, and well staged. The varieties were Lady Grisell Hamilton, Silurian, Duke of Westminster, Prince of Wales, Venus, Emily Eckford, Queen Victoria, Lady Mary Currie, Mrs. Eckford, Countess of Radnor, Countess of Powis, Blanche Burpee, Chancellor, and Lovely. Second, Mr. Bolton.

Mr. Robert Sydenham offered prizes for nine varieties. The first was won by Mr. Blair with good examples of the leading kinds, Mars, Her Majesty, and Salopian being particularly striking. Second, Mr. Darnett; third, Mr. J. Cooke.

STOVE AND GREENHOUSE CUT FLOWERS.

These were well shown by Mr. McDonald, gardener to G. H. Kenrick, Esq., Edgbaston, Birmingham, who was first for twelve varieties. Hybrid Rhododendrons were well represented in the following varieties, Duchess

of Connaught, Princess Alice, Princess Frederica (of a lovely terra-cotta colour), and Lord Wolseley. Pancratiums, Allamandas, and other choice flowers made up a striking collection. Mr. Hall, gardener to J. C. Waterhouse, Esq., Macclesfield, was second; and Mr. Cromwell third.

FRUIT.

Choice fruit of all descriptions invariably provides a display of great magnitude and of the highest quality at Shrewsbury. This year was no exception to the rule, though, as may be supposed, the best Grapes were staged in the great class. In all other sections the exhibits were surprisingly good, though the entries in single dish classes were not so numerous as they sometimes are, and taking the Grapes collectively they were scarcely so notable for high finish as in some former years, though in some instances they were the finest ever seen at Shrewsbury.

THE GREAT GRAPE CLASS.

It was a happy thought which led the Committee to celebrate the twenty-fifth annual Show by offering the princely sum of £100 in a single class for Grapes, as there can be no doubt it created the keenest possible interest among gardeners, who waited eagerly on the morning of the Show to hear the verdict, though the general opinion after the staging was completed was that Mr. Lunt would win, and the decision of the Judges gave general satisfaction. The money was divided into six prizes as follows—First, Society's gold medal and £26; second, £24; third, £20; fourth, £15; fifth, £10; sixth, £5. Mr. Lunt, gardener to Capt. Stirling, Keir House, Dunblane, N.B., staged a magnificent collection. The Muscats, Alnwick Seedling, and Muscat Hamburg were of enormous size, and excepting one bunch of the latter variety, grandly finished. The points were apportioned as follows:—

	Number of bunch.	Maximum number of points.	Points awarded.
Cooper's Black	1	9	6½
" "	2	9	6
Muscat	8	10	9½
" "	4	10	9½
Muscat Hamburg	5	9	8
" "	6	9	8
Mrs. Pince	7	9	6
" "	8	9	7
Alnwick Seedling	9	9	8
" "	10	9	8
Black Hamburg	11	9	7½
" "	12	9	7
For decorative staging	...	6	5
Possible number of points	...	116	96

We now give a detailed description of each bunch. No. 1, long in bunch, good in berry, perfect in shape, well coloured; No. 2, just a shade more colour wanted, similar to its companion in other respects; No. 3, a grand shapely bunch, upwards of a foot in length, broad in the shoulder, berries even, of good size, very bright in colour; No. 4, not quite so long, in other respects equal to No. 3; No. 5, a huge cluster, good in berry, but wanting a shade more colour; No. 6, smaller, but perfect in shape, finely coloured; No. 7, long, solid, and shapely, berries good, slightly rubbed during transit, a slight tinge of red near the foot-stalks; No. 8, finely proportioned, good in colour, clean; Nos. 9 and 10, immense bunches, well shouldered, large in berry, grandly coloured; No. 11, large and shapely in bunch, berries fine, slightly deficient in colour; No. 12, a beautiful shapely bunch, slightly smaller than its companion, colour good.

Arrangement.—A few graceful plants of Cocos Weddelliana were employed as a background, and Nepenthes raised on neat pedestals placed between the Grape stands; small Ferns springing from tufts of moss were placed in suitable positions in the foreground. A truly wonderful exhibit, which thousands of visitors lingered to admire, and of which the grower might well feel proud.

The second prize was won by Mr. A. Kirk, gardener to J. T. Paton, Esq., Norwood, Alloa, N.B., with 89½ points. His black Grapes were in many cases grand, but he lost ground considerably with the white ones. The Madresfield Court examples were the finest of that variety in the show. The points were awarded as follows:—

	Number of bunch.	Maximum number of points.	Points awarded.
Madresfield Court	1	9	8½
" "	2	9	7
Duke of Buccleuch	3	10	6
" "	4	10	6
Black Hamburg	5	9	7½
" "	6	9	8
Gros Maroc	7	9	6½
" "	8	9	6½
Buckland Sweetwater	9	9	7½
" "	10	9	6
Appley Towers	11	9	7
" "	12	9	7½
For decorative staging	...	6	5
Possible number of points	...	116	89½

No. 1, Madresfield Court, large, shapely bunches, grand berries, colour beautiful; 2, rather smaller in bunch, fine in berry, colour good; 7, Gros Maroc, bunch of great size, colour good, berries medium. 8, large and shapely, colour good. 11, Appley Towers, perfectly shaped

bunch, colour grand. 12, bunch large and well proportioned, colour grand. These were some of the best in the collection, and the above tabulated statement will convey a good idea of what the others were like.

Arrangement.—Palms and Crotons were pleasingly arranged between the Grapes stands, and the fruit dotted with smaller plants and traced with Selaginella. This was a collection fine enough to have won in many great contests.

The third prize went to Mr. Goodacre, gardener to the Earl of Harrington, Eivaston Castle, Derby, who had fine Muscats, Gros Guillaume, and Muscat Hamburg. No. 9 was a fine bunch of Gros Guillaume with well coloured berries, the bunch being a little thin at the base. No. 10, a handsome, shapely, broad-shouldered bunch, perfectly coloured, weighing from 8 to 10 lbs. The points were awarded as follows:—

	Number of bunch.	Number of points.	Points awarded.
Muscat Hamburg...	1	9	7
" "	2	9	6½
Muscat " "	8	10	7½
" "	4	10	7
Gros Maroc " "	5	9	5½
" "	6	9	5½
Black Hamburg " "	7	9	5½
" "	8	9	5½
Gros Guillaume " "	9	9	7
" "	10	9	7½
Madresfield Court " "	11	9	5
" "	12	9	5½
For decorative staging " "	...	6	4½
Possible number of points	...	116	79½

Mr. J. Campbell, gardener to C. E. Newton, Esq., Derby, was a very close fourth, with seventy-six points; the fifth award went to Mr. J. Langley, gardener to Rev. T. M. Berkeley Owen, with sixty-nine points, and Mr. Bannerman, gardener to Lord Bagot, Blithfield, Rugeley, followed with sixty-three points.

DECORATIVE DESSERT TABLES.

First prize, £15; second, £12; third, £8, the maximum number of points allowed for various kinds of fruits being stated in the schedule. Four splendid tables were arranged, the fruit throughout being good, and in some cases of exceptional merit. Mr. Goodacre won well with 118 points. Three tall glasses were placed at intervals along the centre of the table, the Grapes arranged in baskets between them, smaller glasses being used along the sides of the tables. These glasses were lightly arranged with *Monstretia*, sprays of Bridal Wreath (*Francoa ramosa*) relieved with *Asparagus* and Fern fronds, the whole being pretty and effective. The Grapes were Muscat of Alexandria, Canon Hall, Madresfield Court, and Black Hamburg, in fine condition. Grand Sea Eagle and Royal George Peaches, fine Stanwick Elruge and Prince of Wales Nectarines, Courtess and Hero of Lockinge Melons, in grand condition; Brown Turkey Figs, Transparent Gage Plums, Souvenir du Congrès, and Williams' Bon Chrétien Pears, and beautiful Washington Apples.

Mr. McLadoc, gardener to Sir J. Pease, Bart., Hutton Hall Gainsborough, was second, securing ninety-eight points. The Grapes in his collection were Black Duke and Black Hamburg, good in bunch and well coloured; Muscats fine in bunch, berry, and colour; Chasselas Napoleon, shapely in bunch, berries rather spotted. Other good dishes were Be t of All and Scarlet Premier Melons, Sea Eagle and Violette Hâtive Peaches, and Pineapple Nectarines. The fruit dishes were large and showy, but not of high quality. Mr. E. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Leicestershire, was third, gaining 91½ points. Pineapple Nectarines and Bellegarde Peaches were his best dishes.

COLLECTIONS OF FRUIT.

Eight exhibitors entered the fray in the class for twelve dishes, and although the competition was close, Mr. Goodacre again came out victorious; he staged Muscat Hamburg, and Madresfield Court Grapes, which each wanted a shade more colour at the base of the berries; Canon Hall and Muscat of Alexandria, clean and fairly well coloured; a good Queen Pine, and Countess Melon, fine Barrington and Royal George Peaches, Victoria Nectarines, Brown Turkey Figs, Dr. Jules Guyot Pear, and handsome Lady Sudeley Apples; Mr. G. Mullins was a close second, with Muscat, Black Alicante, and Gros Maroc Grapes in fine condition, and good Peaches and Nectarines. The third award went to Mr. Jones, gardener to Mr. Need, York House, Malvern, who staged fine Madresfield and Gros Maroc Grapes, and Stirling Castle Peaches; fourth, Mr. W. Pilgrim, gardener to Sir Geo. Meyrick, Bart., Bodorgan, Anglesey. Several prominent exhibitors were in this class unplaced.

For nine dishes (Pine excluded), open to the county of Salop only, five stands were tabled. The winner was found in Mr. Langley, who staged Black Hamburg and Foster's Seedling Grapes, large in bunch and berry, but wanting a little more colour; a good Hero of Lockinge Melon, fine Grosse Mignonne Peaches, Prince Englebert Plums, Kaisha Apricots, Jargonelle Pears, and grand Morello Cherries. The second prize was won by Mr. C. Roberts, and the third by Mr. S. Brummell.

GRAPES.

Ten exhibits were staged in the class for four bunches of black in two varieties. Mr. Kirk here scored a great win; he staged Madresfield Court, good in bunch, very large in berry, fairly well coloured, and Black Hamburg, large in bunch and berry, and well coloured; second Mr. Campbell, with Gros Maroc, grand in bunch and berry, but wanting

a shade more colour, and Black Hamburg, large and well coloured; third Mr. A. H. Hall, gardener to J. C. Waterhouse, Esq., Prestbury, Macclesfield.

For four bunches of white Grapes Mr. Goodacre was first with Muscat of Alexandria and Canon Hall Muscat, shapely in bunch, clean and well coloured. Mr. T. Lunt was an extremely good second, he staged grand shapely bunches of Muscat of Alexandria, beautifully coloured; Foster's Seedling, large and shapely in bunch, but slightly deficient in colour. Third Mr. Lambert, with Muscat, and Buckland Sweetwater, of far size and good colour.

Black Hamburg, five stands staged. First Mr. A. Ruddock, gardener to E. A. Young, Esq., Tanybryn, Bangor, with massive bunches, good in colour; second Mr. Goodacre, whose bunches were good but wanted a shade more colour; third Mr. Campbell, staging finely shaped bunches, slightly deficient in colour.

Six exhibits were staged in the class for Madresfield Court, Mr. A. H. Hall having the best; the bunches were beautiful in form, of moderate size, and the berries well coloured. This exhibit also won the first prize for examples grown with Pearson's (Nottingham) chemical manure; second Mr. W. Nild, Holmes Chapel, Cheshire; third Mr. Shingler, gardener to Lord Hastings, Melton Constable.

The best pair of Black Alicantes were shown by Mr. Shingler, whose bunches were very large, the berries of good size, and beautiful finish. Second, Mr. A. H. Hall; third, Mr. Langley.

CLASSES OPEN TO THE COUNTY OF SALOP ONLY.

Black Hamburg.—First, Mr. A. Salt, gardener to J. W. Wilson, Esq., The Grove, Market Drayton; second, Mr. Dawes, gardener to Lord Trevor; third, Mr. Langley. The best pair of any other black came from Mr. W. Ashwood, gardener to R. A. Newitt, Esq., Wellington, and for a like number of Muscats Mr. T. Lambert was an easy first with finely coloured examples.

SINGLE DISH CLASSES.

Mr. C. Tyler, gardener to C. A. Jones, Esq., Hendre, Carnarvon, was first for Peaches with a finely coloured dish of Bellegarde. Second, Mr. McIndoe with Sea Eagle. Third, Mr. Bannerman with Royal George. Of Nectarines there were twelve lots staged. Mr. J. Howard, gardener to Sir B. Sutton, Bart., Benham Park, Newbury, was a good first with a grand dish of Pineapple. Second, Mr. Goodacre; third, Mr. Hall. Melons, green fleshed, twenty were staged. Mr. Davis, gardener to Rev. F. Alderson won with Countess. T. Kynnersley, Esq., was first in the class for scarlet flesh with Scarlet Premier; Mr. Cooke, Corner Farm, Shrewsbury, was first for Apricots; Mr. J. Langley, for green or yellow Plums; Mr. Goodacre, for red or purple ones; and Mr. J. Robinson, gardener to Lieut.-Col. Lloyd, Ashton Hall, Oswestry, for a grand dish of Cherries.

In the class for two bunches of Gros Maroc or Gros Colman Mr. Shingler again won with good bunches, having enormous berries. Second, Mr. Campbell; third, Mr. Grimmex.

The Muscat class was a strong one, ten stands being staged. Mr. Lunt proved victorious, winning with long tapering bunches, grandly coloured. Second, Mr. Nild, with fine bunches, clear, but not bright in colour. Third, Mr. Bannermann. For "any other white" Mr. Lawley won with good examples of Buckland Sweetwater. Second, Mr. Kirk, with Duke of Buccleuch. Third, Mr. Jordan, Impney Hall Gardens.

VEGETABLES.

The great drought and intense heat of the last month has seriously affected the vegetable section of horticultural exhibitions throughout the country, and there were many conjectures as to the way in which it would affect the appearance of the vegetable tent at Shrewsbury. To those who had misgivings on this point there was a great surprise in store, for vegetables were largely and well shown. True, the best of them were not equal to some that have been staged there in previous years, but the collections were more equal in point of merit than is often the case, and were staged in unusual numbers. There was, however, a distinct falling off in the single dish classes.

SPECIAL PRIZES.

Messrs. J. Carter & Co., High Holborn, offered the handsome prizes of £10, £5, £3, and £2, and an additional piece of plate with each prize, for a collection of nine distinct kinds. Four fine exhibits were staged. Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury, proved victorious. He staged fine Record Onions, Red Elephant Carrots, Early Autumn Giant Cauliflower, Holborn Model Leeks, Perfection Tomatoes, Snowball Potatoes, Maltese Parsnips, Model Cucumbers, and Jubilee Beans. Second, Mr. Wilkins, gardener to Lady Theodora Guest, Henstridge, Blandford. His best dishes were wonderful Ailsa Craig Onions, fine Monarch Potatoes, good Leeks, Celery, Peas and Beans; third, Mr. B. Ashton, gardener to the Earl of Lathom, Ormskirk, Leeks, Cauliflowers, Peas, and Carrots being the best dishes.

Messrs. Sutton & Sons, Reading, offered six prizes for a collection of nine distinct kinds. The amounts were £6, £4, £3, £2, £1, £1. Twelve fine lots were staged, and the competition was so close that all the prize winners were pointed to enable the Judges to arrive at a correct decision. The champion of the class proved to be Mr. Bowerman, Hackwood Park Gardens, Basingstoke, who staged grand Prize-taking Leeks, New Red Intermediate Carrots, and Ailsa Craig Onions, good Tomatoes, Best of All Beans, Solid White Celery, Ideal Potatoes, Ne Plus Ultra Peas, and Autumn Mammoth Celery. Second, Mr. J. Gibson, gardener to R. Hudson, Esq., Danesfield, Marlow, whose best dishes were very fine

Tomatoes, Onions, Celery, and Beans. Third, Mr. Pope; fourth, Mr. Muir, gardener to Sir J. Shellv, Bart., Sholbrook Park, Crediton; fifth, Mr. J. Delamore, gardener to Rev. E. Furley, Hinton Hall, Shrewsbury; sixth, Mr. Wilkins.

Messrs. Webb & Sons, Stourbridge, offered substantial prizes for eight dishes. Seven lots were staged, and Mr. Bowerman again secured the coveted award, staging grand Onions. Prizewinner Carrots, Leeks, New Exhibition Beans, Jubilee Tomatoes, Talisman Peas, and Early Mammoth Cauliflowers. Second, Mr. Pope, having fine Onions, Carrots, and Potatoes. Third Mr. Wilkins, fourth Mr. Ashton. Mr. Bowerman won in the class for the best dish of the above firm's Jubilee Tomatoes. Mr. Robert Sydenham, Birmingham, offered numerous prizes for single dishes; in each case the exhibits were numerous. In addition to money prizes a gold medal and various articles of jewellery were offered, and the winner of the most points in these classes becomes entitled to hold a handsome silver cup, valued at £15, the holder to win it twice before it becomes his property. Mr. Pope became the holder of the cup last year, and has this year won it outright with 44 points.

Mr. E. Murrell, Shrewsbury, offered prizes for twelve dishes and six dishes. Mr. J. Robinson won in the former class, and Mr. J. Abbott, gardener to Mrs. Guise, in the latter one. Messrs. Jones and Sons, Shrewsbury, offered prizes for a collection of eight dishes. The winner was Mr. Dawes, gardener to Lord Trevor. Messrs. Fidler & Co., Reading, offered prizes for four dishes of vegetables. The first was secured by Mr. Abbott. Mr. Martin, gardener to A. Henderson, Esq., Buscot Park, Berks, won in the class for vegetables grown with With's chemical manure.

SOCIETIES' CLASSES.

Mr. Hall, gardener to I. C. Waterhouse, Esq., Prestbury, was first with a single dish of Tomatoes with Perfection; he also had the best brace of Cucumbers. Potatoes.—The competition was keen in the class for five dishes. Mr. Pope won with Supreme, Perfection, Satisfaction, Ideal, and Windsor Castle. For three dishes Mr. Taylor, gardener to Lord Kenyon, was first; and for a single dish Mr. Pope won. Mr. Ashton was first for Cauliflowers, Mr. Bowerman for autumn-sown Onions, Mr. Huxter had the best spring Onions and the best six Turnips, Mr. Townsend the best Peas and Dwarf Beans, Mr. Hunt the best Carrots, and Mr. Risebrow, gardener to Col. Kenyon, Slaney, Shifnal, won easily with Parsnips, staging wonderful roots.

NON-COMPETITIVE EXHIBITS.

These were quite as numerous as in former years, and formed a series of attractions throughout various parts of the Show. Pressure of space prevents us from describing them in detail, but we append the official list of awards made. Messrs. Hill & Sons, Lower Edmonton, large collection of Ferns in pots and miscellaneous plants (large gold medal). Messrs. Sutton & Sons, Reading, were awarded a large gold medal for an extensive collection of flowers, pot plants, and a grand display of vegetables. Messrs. Peed & Sons, Roupell Park, Norwood, staged a fine collection of Caladiums, set in a groundwork of Ferns (large gold medal). Messrs. T. S. Ware, Ltd., showed a wonderfully fine lot of Tuberous Begonias, which were greatly admired (small gold medal).

Messrs. Dickson's, Ltd., Chester, put up an extensive group of cut flowers and stove plants, in the centre of which was placed a tank, with Water Lily leaves and flowers deftly arranged in the water (small gold medal). Messrs. Dobbie & Sons, Rothesay, N.B., made a fine display of cut flowers, which included Gaillardias, Dahlias, Violas; their new Tomato, Cherry Ripe, was also staged (small gold medal). Messrs. Webb & Sons, Wordsley, Stourbridge, arranged a very showy exhibit, consisting of hardy flowers, vegetables, Begonias, and Gloxinias (small gold medal). Mr. Murrell was awarded a small gold medal for a collection of Roses.

Mr. Mortimer, Rowledge Nursery, Farnham, Surrey, who staged a very fine collection of Dahlias, was awarded a small gold medal. Messrs. R. Hartland & Sons, Cork, exhibited a large and good collection of Tuberous Begonias in a cut state (small gold medal). Messrs. Cutbush and Sons, Highgate, were awarded a small gold medal for a collection of Ivies. Messrs. G. Bunyard & Co., Maidstone, staged an extensive collection of Apples and other fruits, and were awarded a gold medal. Mr. J. Watkins, Pomona Farm, Hereford, staged Apples, Plums, Pears, and Peaches, and were awarded a silver medal. Messrs. Pritchard and Sons, Shrewsbury, were awarded a silver medal for a group of Ferns and cut flowers.

Messrs. Spooner & Sons, Hounslow, were awarded a silver medal for a good collection of Apples. Mr. H. Deverill, Banbury, staged a fine exhibit of hardy herbaceous cut flowers (silver-gilt medal). Mr. Myers, Shrewsbury, was awarded a silver medal for greenhouse plants; Mr. B. Davis, Yeovil, staged cut Dahlias and a fine collection of Begonias in pots (silver medal). Messrs. W. Clibran & Son, Altrincham, Manchester, staged Celosias and an extensive collection of Crotons (silver medal).

Mr. J. Forbes, Hawick, obtained a silver-gilt medal for Carnations and hardy flowers. Mr. J. Green, Norfolk Nurseries, Dereham, staged Dahlia and Gloxinia blooms (silver-gilt medal). Mr. H. Pattison, Shrewsbury, was awarded a silver medal for Violas and Pansies. Messrs. Smith & Co., Worcester, staged a good group of plants in the open air, and were awarded a small gold medal. Mr. H. Eckford, Wem, Salop, showed a fine collection of Sweet Peas (gold medal). Messrs. Jarman and Co., Chard, were awarded a silver medal for Dahlias and other flowers. Mr. W. Edwards, Nottingham, had on view an extensive display of the celebrated Edwardian vases and flower stands, tastefully arranged with Ferns and flowers. Mr. A. Salt, gardener to J. W. Wilson, Esq., Markot Drayton, was awarded a certificate of merit for a bunch of Black Hamburgh Grapes weighing 7½ lbs.

CONCLUDING REMARKS.

A continuous round of amusements was provided in the open air throughout the two days of the Show; these proved exceedingly entertaining to the vast array of pleasure seekers present. The bands engaged to perform were the Horse Guards (blue), conducted by Lieutenant C. Godfrey; the Coldstream Guards, by Mr. J. M. Rogan; and the Royal Marines (Portsmouth Division), by Lieutenant G. Miller, and it is needless to say that the strains of delightful music which floated on the air was greatly appreciated. On the first day of the Show we learn that the receipts were £879 and on the second £1852 9s. 6d., a considerable advance on those of any former year. A gigantic success in every way was Shrewsbury's "Greatest Show on Earth."—H. D.

SALTLEY.—AUGUST 21ST.

THE twenty-third annual Show of the Saltley, Washwood, and Nechells Horticultural Society was held in the grounds of Mr. Cope, Washwood Heath, under the presidency of the Lord Mayor of Birmingham (Councillor C. G. Beale). The weather was delightfully fine, and the arrangements reflected much credit upon Mr. J. R. Willmott (the Secretary) and the staging Committee.

The groups of plants arranged for effect evidenced a considerable degree of artistic taste by the winners, Mr. A. Cryer, gardener to J. A.



FIG. 40.—MR. THOS. LUNT.
First Prizeman Special Grape Class Shrewsbury.

Kenrick, Esq., Edgbaston, who secured first honours; and Mr. L. Fewkes, gardener to F. Clayton, Esq., Castle Bromwich. Stove and greenhouse plants were well shown. Fuchsias were fairly well staged, Messrs. F. Clayton, Mitchell, and A. Cryer being the respective prizetakers.

Single specimen plants were excellent, Mr. A. Cryer being placed first with *Croton cordatus tortilis*, and Mr. Clayton second for *Allamanda Hendersoni*. Zonal "Geraniums" were a feature, and for six plants Mr. A. Cryer and Mr. Clayton were the winners. The best British Ferns were exhibited by Mrs. Strutt, and exotic Ferns by Mr. F. Clayton. Begonias were finely shown. The first prize was taken by Mr. A. Cryer, and the two other winners were Mr. A. Smith and Mr. Ash.

Roses were, for the season, good. Messrs. Perkins & Son, Coventry, were first for twenty-four blooms, and Messrs. Townsend & Son, Worcester, were in the second position, with Mr. W. Charlton, Harborne, third. Show Dahlias were finely shown by Mr. Townsend and Mr. F. Clayton. Carnations were creditable, Messrs. Price, Charlton, and Oliver being placed in the order named. Bridal bouquets were fairly good, the prizes going to Messrs. W. Smith, Charlton, and Silver. Ladies' sprays also were meritorious by Messrs. Charlton, Silver, and Smith, while a remarkably fine feature were the cottagers' bouquets of both garden and wild flowers, the latter especially being arranged with great taste and neatness.

Vegetables were very well exhibited throughout. For six kinds (prizes offered by Messrs. W. Austin & Son, Saltley) the first prize was adjudged to Mr. F. Clayton, and the second to Mr. Cryer. For Messrs.

Sutton & Sons' prizes for six distinct kinds, the first prize was awarded to Mr. A. Cryer with an excellent exhibit, the second falling to Mr. Oliver, and the third to Mr. Dixon Taylor. Messrs. Jenkins and Gregory were the victors for Messrs. Thomson & Sons' vegetable prizes. Messrs. Webb and Son, Wordsley, offered prizes, and for which there was good competition, as also for the prizes offered by Messrs. Yates & Sons, Birmingham.

Fruit was very well shown, and for six dishes, distinct, Mr. W. Charlton, Harborne, and Mr. J. Clayton were the successful exhibitors. Black and white Grapes from Messrs. A. Cryer and Mr. Petersen, Edgbaston, were splendid.

DUBLIN.—AUGUST 22ND.

It is pleasing to record that this particular exhibition of the Royal Horticultural Society of Ireland received a due share of patronage from the gay and festive throng which has invaded Dublin. The greatest show on earth—the Horse Show of the Royal Dublin Society, which our press tells us, and there is no reason to doubt it, is "the biggest thing of its kind in the world" was, of course, the primary attractive influence of the Milesian metropolis; but those who love "gee gees" appear to love flowers and music as well, hence the executive were hilarious over an almost unprecedented sale of tickets prior to their own field day. Well billed, too, the flower show had been, particular emphasis being given to the fact of the band of the First Lifeguards being engaged for it on their first appearance in Ireland.

In glorious weather these mighty men of music did what was expected of them; but the exhibitors, did they do their part? The Show, ensconced in the broad expanse of Merrion Square, was certainly bright and well arranged but small, undoubtedly small. Some of the plant classes were void, others so sparsely represented that farther comment on this section need not detain. Trade groups, not for competition, were the redeeming feature, however, and Messrs. Henderson and Ramsay deserved praise and commendation from the judicature, which they received for their well-filled stands. F. W. Moore, Esq., looked hot and happy as coatless and hatless his deft hand put the last dainty touches to a grand group from Glasnevin. Over a score of years we remember these groups, which to all sorts and conditions of plant lovers are of the highest educational value.

Again, how bravely to the front came the Irish Dicksons with a stand of 150 kinds of hardy flowers, among which their Sweet Peas were a thing of beauty. Messrs. W. Drummond & Sons, Ltd., had a tent to themselves, and filled it with a tasteful table of herbaceous and shrubby flowers, fresh and interesting, including specimens of some things only rarely seen. As well as their plants, previously noticed, Messrs. Henderson put up a stand of cut bloom in variety, amongst which their bunches of Begonias were of marvellous size and surpassing beauty.

Mr. Watson contributed from the Clontarf Nurseries a bright and pleasing arrangement in which Cactus Dahlias were a prominent feature, the same firm winning in the nurserymen's class the Society's silver medal for the best thirty-six Dahlias, half Show and half Cactus varieties. It goes without saying that Dicksons of Newtownards were *par excellence* first with forty-eight Roses, taking also premier honours for twenty-four Gladioli, each different. Valuable trophies and good cash prizes were competed for in the amateurs' classes for cut blooms of Dahlias, Gladioli, Carnations, and other seasonable flowers, and the names of Lord Ashtown, Lord Ashbrook, Lord Cloncurry, and the Hon. Col. Crichton figured frequently in the prize list among some strong exhibitors nearer home, including that redoubtable amateur, J. H. Smallman, Esq., of Dalkey.

Fruit was fairly well shown, with, however, little competition in classes for Grapes, and with these white Grapes were patriotically conspicuous for "wearing of the green." Fine examples of Cooper's Black won first honours for the Lady Emily H. Bury; and Mr. Colgan, gardener to the Right Hon. J. M. Meade, L.L.D., had the best Black Hamburgs. Some vague wording, or reading, of the schedule anent the premier Grape class led to a little confusion respecting its interpretation, but how the matter was finally settled deponent knoweth not. A silver cup, presented by Hume Dudgeon, Esq., for the best sixteen dishes of fruit, went to Galway under the wing of Mr. Porter, gardener to Lord Ashtown. The many fruit classes were fairly filled, but judging generally, which commenced late and finished early, was not difficult; the nine good men and true, who were hurrying off ere a growl was heard, being called back to a substantial luncheon, for which thanks are returned to the Hon. Sec., and his able coadjutor, W. H. Hillyard, Esq., by—ONE OF THEM.

CHIPPENHAM.—AUGUST 23RD.

THE annual Exhibition of the Chippenham and Calne Society was held in Hardenhuish Park on the above date, and was favoured with beautiful weather and a large attendance. For many years the Show was confined to local districts, but with good support the Committee wisely decided to extend the sphere of operations, and include an open to all division in their schedule. This materially enhances the quality of the exhibits staged, and gives a wider interest in the Show itself.

The groups of plants, though not a large entry, made quite an attractive feature; but, unfortunately, the best exhibit was disqualified, because of the technical error of the exhibitor, Mr. Perry, gardener to Capt. Spicer, Spy Park, in turning a few plants out of their pots, presumably to decrease their height. The Committee, admitting the great merit of the exhibit, voluntarily gave a special prize, and which was well deserved. Mr. Pym, gardener to Mrs. Goldsmith, Trowbridge, who

was second with a formal arrangement, and Messrs. Cole & Son, Bath, were accordingly given the first and second prizes.

Mr. Geo. Tucker, Hilperton, won easily with his fine specimen Fuchsias in six varieties, Messrs. H. Pocock and W. N. Lawes taking the remaining prizes, also with good plants. Mr. Tucker was also first with six flowering plants, and with one single specimen; Capt. Spicer winning with six Ferns, Mr. Tucker second, both having very fine plants. The latter took first prize for trained Zonal Pelargoniums and Begonias Messrs. T. Harris, W. Strugnell, gardener to Col. Vivian, and Perry shared the prizes for table plants, which made a good class, and keen competition. Mr. J. Mattock was invincible with his R. ses, scoring with both thirty-six and twenty-four varieties, Mr. A. A. Walters, Bath, following. For Dahlias, Messrs. Cray & Son, Frome, scored with twenty-four varieties, twelve Cactus, distinct in triplets, and with Pompons; Messrs. Humphries, Lindsay, and Cooper securing the remaining prizes. Asters, herbaceous flowers, Gladioli, Parsies, Carnations, cut flowers in bunches, and Pelargoniums made a strong feature, the principal winners being Messrs. G. Humphries, Stokes & Son, A. A. Walters, Hooper, Cole & Son, and Mattock.

In the district classes Mr. Perry was most successful, as also were T. Harris, Esq., Calne; Gibson, and Beeton, Chippenham; Captain Clarke, Prince Hatzfeldt, Draycot; Miss Ashe, and S. Hudd, Chippenham. In some classes the competition was keen, and the exhibits highly meritorious; in others they were characterised by poor quality.

In the open classes for fruit the quality and extent surpassed anything that has been seen at Chippenham at any previous show, though only a limited number of classes are open to all. For a collection of eight dishes of fruit there were four entries, Mr. Strugnell winning first with good Muscat and Alicante Grapes, Bellegarde Peaches, Pineapple Nectarines, Taunton Hero Melon, Washington Plums, Brunswick Figs, and Apples. Mr. Kidley, gardener to A. Sanford, Esq., Minehead Court, Somerset, was a good second, having beautifully finished Black Hamburg Grapes, fine Peaches, Nectarines, Figs, and Cherries, Mr. Perry being a good third. For two bunches of black Grapes Messrs. Kidley, Strugnell, and T. Harris took the prizes, the latter being first for white Grapes.

Peaches and Nectarines were numerous staged, and the quality first-rate, Messrs. F. Perry and Cray & Son being the most successful. The latter staged the best dessert Apples, three dishes; Mr. Kidley second; Mr. Strugnell and the Rev. J. Loy, Hardenhuish Rectory, the best culinary varieties. The best Melons were staged by Messrs. Strugnell and Coventry.

Vegetables were confined to the district, and these showed signs of the abnormal summer weather both in quality and quantity. Classes were provided for amateurs and cottagers, both for plants, flowers, fruit, and vegetables, which, together with other divisions, made an extensive display, four large tents being required to accommodate the produce.

KINGSWOOD.—AUGUST 23RD.

THIS fixture clashed with Shrewsbury and Chippenham, both of which drew away a few exhibitors who have competed at Kingswood in former years. As a consequence of this and the effect of so much heat and drought, there were fewer entries than usual, more especially in the classes for cut flowers and fruit. Mr. A. W. Cottle is the Honorary Secretary, and thanks to his exertions, well backed up by the Committee, a good display was made, and a very successful meeting can be chronicled.

In the plant classes the premier prizes were offered for a collection of ten flowering plants and six fine foliated plants, and with these Mr. J. Cypher, Cheltenham, was well first; Mr. Vause, Leamington, second; and Mr. J. B. Woods, Chipping Sodbury, third. In the class for a group of plants arranged for effect the competition was very close, the Judges eventually awarding the first prize to Mr. W. Vause, Mr. J. Cypher taking second prize for the lighter and more generally pleasing arrangement, while Messrs. R. Palmer & Son also made a really good display for third.

Silver cups, value 6 guineas, were offered in separate classes for six flowering plants, six fine foliage plants and six Ferns, and all were won easily by Mr. W. Rye, gardener to Captain Belfield, Frenchay. Mr. E. W. Towill, gardener to Mrs. Gale Cole, Downend, was second for flowering and also fine foliated plants. Mr. Rye's Ferns consisted of very fine specimens of *Todea superba*, *T. pellucida*, *Alsophila excelsa*, *Nephrolepis davallioides furcata*, *D. filix-foemina*, and *Adiantum trapeziforme*. In this instance Mr. W. Denton, gardener to the Rev. T. Fancett was second. With eight exotic Ferns Messrs. R. Palmer & Son were first, and Mr. W. Rye a close second. Mr. J. Rogers was the most successful exhibitor of tuberous Begonias in the several classes allotted to these, Mr. Denton also doing well with this popular class of plants. Fuchsias were not in good condition. The best were shown by Mr. W. J. Mould, Bath, who was also well first with Zonal Pelargoniums, Mr. Towell taking second prizes. Messrs. J. B. Woods & Son had the best Gloxinias.

Several special prizes were offered by Mr. E. Poole, F.R.H.S., among these being a silver Flora medal for the best specimen Pitcher Plant, and this was won by Mr. G. E. White, gardener to Gilbert House, Esq., whose exhibit attracted much attention as being something novel and striking to the majority of visitors.

Cut flowers, as already intimated, did not occupy so much space as usual, while those staged flagged very quickly. Messrs. G. Garraway, Bath; W. Smith, Kingswood; A. A. Walters, Bath; and T. Hobbs, Bristol, were the most successful with Roses. Messrs. J. Walker, Thame; T. Haskins, J. Burgess, and G. Humphries, Chippenham, had the prizes for Dahlias. Mr. A. A. Walters was an easy winner of first prizes in the

classes for Asters, Mr. J. Burgess being the most successful amateur. Mr. W. Smith was first, and Mr. A. A. Walters second with herbaceous flowers; and first prizes were awarded to Mr. J. Cypher and Mr. W. Rye for fine bunches of stove and greenhouse flowers.

The 6-guinea silver cup, offered for a collection of eight dishes of fruit, was won by Mr. A. Cross, gardener to H. O. Wells, Esq., Bath, who staged fairly good Madresfield Court and Muscat of Alexandria Grapes, a fine Taunton Hero Melon, good Barrington Peaches, Pineapple Nectarines, Green Gages, and Filberts. The same exhibitor was also first in another class for eight dishes. Mr. E. Hall, Bath, was second. For black Grapes Mr. J. Marshall, gardener to W. Stevens, Esq., Redlands, was first with Gros Maroc, the berries being exceptionally large, and fairly well coloured. Second Mr. Fewtrell, gardener to C. C. Tudway, Esq., Wells, with the same variety in good condition. With white Grapes Mr. T. Wilkinson, gardener to Mrs. Talbot Greaves, was first, showing well-ripened Muscat of Alexandria. Second, Mr. Marshall, who showed only slightly inferior Buckland Sweetwater. In the local classes Messrs. Marshall; G. Shelton, gardener to W. K. Wait, Esq.; and G. Sutton, gardener to Mrs. Todd, distinguished themselves. Melons were poor, but there were a few good Peaches and Nectarines; while the Apples, Pears, and Plums were both numerous and good in quality.

Vegetables in numerous classes were quite up to the average in point of quality, and nearly as numerous as in more favourable seasons. The ladies at Kinswood invariably arrange a very attractive display of table ornaments and decorations, and on this occasion they fully maintained the good reputation they have gained in previous years.

PERTH.—AUGUST 24TH, 25TH, AND 26TH.

THE annual Exhibition of the Royal Horticultural Society of Perthshire was held in marquees on the North Inch, Perth, on Thursday, Friday, and Saturday, 24th, 25th, and 26th August, during brilliant weather. Taken over all the present Show compares favourably with those that have preceded it, although in some of the sections there was a slight falling off both in point of numbers of the exhibits as well as quality.

Only two competitors entered for the circular group of plants, both showing effective arrangements. Mr. John Leslie, gardener to Andrew Coates, Esq., of Pitculen, secured the coveted ticket. Tables of plants were well and tastefully arranged, and composed chiefly of small Crotons, Dracenas, Pandanus, intermixed with Lilliums and Clerodendron fallax, set in a groundwork of Maidenhair Ferns, they had a graceful and attractive appearance. Mr. Thomas Dobbin, gardener to James Ramsay, Esq., Balhousie Castle, was prizeman in this section.

Specimen plants were only of medium quality, and call for no special comment. The same remark applies to Ferns, Begonias, Fuchsias, and "Geraniums." Table plants in 6-inch pots were, however, numerous and of excellent quality, Messrs. Leslie and Dobbin sharing the prizes.

Cut flowers were a prominent feature of the Show, many specimens of great merit being staged. Sweet Peas were shown in abundance, and made quite a show in themselves. Asters, Marigolds, Roses, Pentstemons, and such-like were contributed in large numbers, and of meritorious quality. The principal prizetakers in the cut bloom classes were Mr. Joseph McFarlane, gardener to Patrick Grant, Esq., of Kilgraston, and Mr. Brown, gardener to Sir Alexander Moncreiff of Bandirrun. Two excellent model flower gardens were shown, and attracted a good deal of attention, both being very neatly and tastefully executed. They were the work of two apprentice gardeners, Mr. Alex Sharp, Ballendrick, and Mr. Angus McLean, Kilgraston, who gained the prizes in the order named.

Fruit was only of fair quality. Grapes have been better shown at Perth. Peaches and Nectarines were very good, as were also Apples, but other fruit was only second-rate. Messrs. Leslie, Dobbin, and Lowe, Glencarse House, were the most prominent winners in the fruit tent.

Vegetables were not so plentiful as we have seen, but the quality was really very fine, especially the winning collections, which were staged by Mr. Harper, Tulliebelton, Mr. Joss, Hattonburn, and Mr. McFarlane, Kilgraston. Amongst the individual exhibits, Celery, Leeks, and Onions were very fine.

Trade exhibits filled a large part of one of the tents, and formed an attractive feature, notably the fine table of Begonias which was shown by Mr. William Brown, Hatton Nursery, than which a finer lot has not been seen in the fair city. Messrs. Dickson & Turnbull, Perth Nursery, also staged a beautiful collection of miscellaneous plants and flowers. Messrs. Alexander & Brown, who have only lately commenced business, staged a fine collection, chiefly made up of flowers grown by customers from their selected strains of flower and vegetable seeds. Dahlias, Carnations, and Begonias combined to make a capital display from the Glencarse Nurseries of Messrs. Storr & Storr.

TO REMOVE FRUIT STAINS.—With the frequent service of fruits, the table linen is apt to suffer. Before sending to the laundry, says an American contemporary, the tablecloths and serviettes should be carefully examined and the spots removed, as soap sets the stains. Most fruit stains, taken in season, can be easily removed from linen by putting the stained portion over a bowl and pouring a stream of boiling hot water through it. Oxalic acid, allowing 3 ozs. of the crystals to 1 pint of water, will be found useful to be kept on hand for this especial purpose. Wet the stain with the solution and hold over hot water or in the sun. The instant the spot disappears rinse well. Wet the stain with ammonia, then rinse again. This will many times save linen.

PLUMS UNDER GLASS.

PLUMS generally are more impatient of a forcing atmosphere than any other stone fruit. This, however, does not preclude the successful cultivation of the choicer varieties under glass, for with properly constructed and well managed houses Plums of the highest excellence may be readily obtained. Lean-to structures erected against south-east, south, or south-west walls answer admirably, provided they are well ventilated, the border thoroughly drained, and adequate supplies of water given the trees. The side and top lights should open the whole length of the house, and the roof-lights be movable. Cases 6 feet in width will accommodate trees on walls and others on a low trellis in front, say to the extent of one-third the distance up the sloping roof. The front trees may be trained as cordons, and, duly restricted at the roots, they bear abundantly. This plan, however, is not so good as training half standard trees to a trellis fixed 9 to 12 inches from the glass, the stems being the height of the front lights. Less space is afforded by this method, but the fruit attains to greater perfection and is more abundant than on trees trained to the wall. When the house is 10 feet or more in width, bush, pyramid, or low-stemmed trees with round heads may be grown with great advantage in front, either planted out or in tubs, and so arranged as not to deprive the trees on the back wall of too much light. Grand Plums are also grown in wall cases by planting the trees in front, one to each rafter, and training them up the roof as cordons. This does not prejudicially affect Peaches or Nectarine trees on the wall.

STRUCTURES.

Span-roofed houses with the ends north and south, or north-east and south-west, are suitable for standard Plum trees—the best of all methods of training stone fruits under glass. A row of trees can be disposed in the centre, and a row on each side of the house. It is imperative that the trees have stems so high that their heads will be exposed to full light. If grown in pots it matters little what form the trees are in, nor what height or width the house may be if it is light and airy. In exposed localities it has been recommended to sink the floor of the house somewhat below the surface, so as to secure the advantage of earth heat, and facilitate the covering of the roof with mats or canvas in severe weather. The great objection to sunk houses is damp, especially in low sites. With the trees in pots the roof-lights may be fixed, as they can be transferred anywhere at will, and the grand secret of success in the culture of Plums in cool houses is keeping the trees dormant as late as possible, with the soil in a thoroughly moist condition. Excessive dryness at the roots as a means of forcing the trees to become and remain dormant till late in the spring often causes the buds to fall. When the trees are fully exposed from the fall of the leaves to the bursting of the buds inactivity and the soundness of the buds are assured during the resting season, and Plum trees take no harm whatever in the severest weather when the pots are plunged over the rims in ashes. An orchard house with boarded sides, not so close as to entirely deprive the trees of light on frosty nights and on cold days when the house is shut, hinged boards at the sides opening the full length of the structure provide efficient ventilation, and the roof glazed with large panes of glass, is the exact position for growing Plum trees in pots. This site affords sufficient shelter against our uncertain springs, insures the perfect ripening of the fruit in cold, dull, wet seasons, and prevents deterioration by throwing off rains and keeping it safe from dews and fogs.

VARIETIES.

The early and late varieties are invariably excellent for growing under glass, but the crackling-fleshed and high-quality midseason varieties, as the Gage race, Jefferson and Kirke's, do not always finish satisfactorily, the fruit turning soft and shrinking instead of ripening. The late Mr. T. Rivers advised trees of these Plums to be removed to a warm and sheltered situation outdoors for ripening; it is an excellent plan provided means are taken to protect the fruit from rain, otherwise it cracks in wet weather. This method can only be adopted with trees in pots. For planted-out trees careful attention is necessary in ventilating, watering, and feeding during the early stages of growth, with plenty of air moisture when the fruit is swelling, especially at night in dry hot summers.

Air at the time of ripening cannot be too freely admitted, as it is excessive evaporation which causes the fruit to ripen prematurely and be soft and poor in flavour. Oullins Golden is very handsome and as good as it looks, but the tree grows too freely to fruit well, yet it frequently does better under glass than in the garden. Denniston's Superb admits no rival in its season for crop and quality. McLaughlin may be described as a large Green Gage with a fine perfume. Braby's Green Gage is earlier than the old Green Gage and larger; it certainly is one of the most delicious Plums. Early Transparent Gage is excellent for growing as cordons and in pots, but the fruit requires to be somewhat severely thinned. Green Gage bears enormously when the soil is firm and the roots restricted or root-pruned. Transparent Gage grows vigorously, and it requires a firm soil and restriction at the roots or root-pruning. Purple Gage shrivels, and is richly flavoured accordingly. Lawson's Golden Gage affords a pleasing variety, and is excellent in quality. Guthrie's Late Green and Reine Claude de Bavay, with Late Transparent Gage, continue the supply up to October, and collectively comprise a dozen of the richest Plums in cultivation. They are all, except Purple Gage, greenish yellow, or yellow streaked or blotched with green or purple. Bryanston Gage also ripens late in September, and the tree is very prolific.

Very few, if any, Plums are richer flavoured than Angelina Burdett,

and being black with brown spots is of good appearance. Of other Plums for dessert Early Favourite ripens as soon as any, followed by De Montfort, Jefferson, Kirke's, Coe's Golden Drop, and Ickworth Impératrice, so that with a judicious selection choice fruit can be had from trees in a cool house from July to November inclusive. The following are also good for dessert or culinary when grown under glass—Czar, Belgian Purple, Sultan, Denbigh, Victoria, Italian Prune, Prince Engelbert, Washington, Monarch, Imperial de Milan, Blue Impératrice, and Grand Duke. All may be grown as cordons, planting the trees about 2 feet apart, and training the stems about 1 foot from the glass. If the trees are fan-trained fewer varieties will be required. Denniston's Superb, Brahy's Green Gage, Jefferson, Transparent Gage, Kirke's, and Coe's Golden Drop cannot well be excelled for affording a succession of choice fruit.

SOIL.

Whether the trees are planted out or grown in pots they require a rather stiff soil. Good calcareous strong loam interspersed with small stones or flints needs no admixture for borders. Efficient drainage, consisting of 3-inch drains to carry off superfluous water, 1 foot depth of rubble, preferably brickbats with a 3-inch top layer of old mortar rubbish, and 18 to 24 inches depth of soil are necessary for borders. For pots or restricted borders a fourth part of well-decayed manure to three of stiff maiden loam, with a 9-inch potful of bonemeal and a quart of soot added to every 3 bushels of compost, are suitable. If the soil is deficient of grit and lime add a fifth part of sifted old mortar rubbish, and if turfy use Thomas's phosphate instead of bone dust. The pots should be drained thoroughly with crocks or oystershells. Make the soil firm and allow sufficient space for holding water. Planting or potting is best done immediately the leaves have fallen. Potted trees ought to be plunged in ashes, and it is desirable to allow them to make a year's growth outdoors before they are placed under glass for fruiting. When trees two or three years from the bud or graft, and especially in pots, can be had, it is better to purchase such than to rear them, and being furnished with blossom buds a crop of fruit may be had the first year.

GENERAL TREATMENT.

If the trees are placed outdoors each winter (after the fruit is gathered in the case of early varieties), they should be returned to the house before the buds are so far advanced as to show colour, allowing plenty of room for the development of the growth, and standing each pot on two or more bricks on the flat a little distance asunder, so that the roots will not pass into the soil, whilst insuring a free passage for the water. Such trees can be moved at any time without prejudice to the growth. When the trees are kept under glass constantly the ventilators should be wide open during the winter whenever the temperature is above freezing point, but when frost prevails they ought to be kept closed. The trees also should be placed close together, so that they can be protected from frost by a covering of dry hay or straw between and over the pots, standing them apart in the spring. Similar remarks apply to planted-out trees in respect of ventilation under fixed roofs in winter, but the better plan is to remove the roof-lights when the leaves have fallen and keep them off until the spring.

Under the circumstances indicated the trees will start naturally in the spring, and from this time forward a circulation of air, except in severe weather, should always be maintained by leaving the ventilators open more or less day and night. Abundance of air and a dry atmosphere is the only way to secure a proper set of fruit. By the time the fruits are set and swelling the sun will have considerable power, and may be taken advantage of to accelerate the growth by reducing the ventilation in the afternoon, yet leaving some, airing early each morning, and when the wind is sharp and cold ventilate on that side opposite its direction. In the summer the ventilators should be kept constantly open.—A.

(To be continued.)

THE YOUNG GARDENERS' DOMAIN.

EARLY GRAPES.

HOUSES that are intended to produce ripe fruit by the latter end of April or the beginning of May, should be started about the middle of November, and all necessary work must be done prior to the time stated, such as pruning, painting the rods with Gishurst compound, washing the glass and woodwork, top-dressing the borders if required. In pruning cut the growths back to two eyes, after which apply some styptic or knotting to the wounds to prevent the rods from bleeding when started. Some prefer peeling and scraping off every particle of old bark from the rods, but I am of opinion it does great injury. If the borders require a top-dressing, remove the surface soil down to the roots, taking great care not to break any; and if dry, apply water, after which dress with a mixture of good maiden loam and old mortar rubble, using four parts of the former to one of the latter; do not add it too heavily, and make it fairly firm. I may say that if the loam is heavy, a little spent Mushroom refuse may be added.

When the time has arrived for starting the house, afford a temperature of 40° to 45° at night, 45° to 50° by day artificially, with a rise of 5° from sun heat. Syringe the rods lightly with warm soft water on bright days in the morning when the thermometer has reached 55°, also at mid-day; but in dull weather, damping the path and border will be sufficient. About a fortnight from the time the house was started, raise the temperature 5° both for night and day, and charge the evaporating troughs with weak

liquid cow manure. Great care must be taken in ventilating; do not admit any air until the house has a temperature of 55°, closing again at mid-day, allowing a rise of 10° from sun heat.

Protect the outside border, if any, from frost, snow, and rains, covering it with straw or leaves, not too thickly, otherwise it will ferment, which will do the Vines injury; place wooden shutters or strips of galvanised iron on the top of it. Examine the borders occasionally to see if they require water; if so, apply it forthwith, for if permitted to become dry it will cause a serious check, but on no account overdo it and make the borders sodden.

When the buds are swelling raise the temperature again 5° both night and day, but do not allow the pipes at any time to become burning hot, or red spider will be encouraged. Remove all surplus growths when they are large enough to handle. Discontinue syringing when the growths are about 1½ inch in length, but well damp the border and paths mornings and afternoons on bright days. If some weak liquid cow manure is thrown down at closing time it will prove very beneficial to the young growths.—P. R.

(To be continued.)



HARDY FRUIT GARDEN.

Feeding Fruit Trees.—Trees that are well cropped with fruit that is wanted to develop to a large size must have some extra assistance to enable them to do this satisfactorily without imposing too heavy a strain upon them. Fruit trees often languish and become enfeebled, not always from the lack of food in the soil, but from the absence of moisture to make the food elements in the soil available for the roots. This, then, is the first thing to consider when the development of the crop does not proceed as it ought. A copious supply of clear water will stimulate the trees considerably, and enable the roots to absorb a richer food, which may be given in the shape of liquid manure, consisting of sewage, stable and farmyard drainings, or top-dressings of artificial manure watered in. In dry hot weather a mulching of manure should follow a good watering, if not previously applied. It serves to prevent rapid evaporation, and maintains moisture equably about the roots.

Trees in a weakly condition making little growth, and of course bearing no fruit, are frequently stimulated into vigour by judiciously applying liquid or artificial manure. Superphosphate, 3 oza. to the square yard, will stimulate roots; and sulphate of ammonia, ½ oz. to the square yard, is good.

Thinning Orchard Trees.—The best way of maintaining old standard orchard trees in fruitful condition is never to allow the branches to become crowded, or interlace and cross one another. Where this is found to be the case the present is a good time to go over the trees and remove superfluous branches. This may be partly effected even if a crop of fruit is present, as the portions to be removed are invariably in the centre of the tree, and do not usually produce fruit owing to growing in a position where sun and air cannot reach sufficiently well to ripen fruit buds. Young orchard trees in the course of formation may be thinned and regulated now with advantage.

Crowded Wall Trees.—Pears, Plums, and Cherries of the sweet section are frequently trained upon walls with more branches than can be properly accommodated. As a rule, they ought to be a foot apart. When at a less distance there is not enough space to allow of their enlargement and the development of the spurs, which in time become rather elongated. Spurs, too, on the branches ought to be reduced in number, thinned out, and shortened back, so that the foliage of one clump does not shade that of others. Planting trees closely results in branches of adjoining trees meeting too soon. The space could be better utilised by planting and encouraging the extension of a less number of trees.

Strawberries.—Preparing Ground for Planting.—The long continued drought has delayed the planting of Strawberries in many districts, but to secure a crop next year from plants placed out this season, there should be no further delay. The ground must be deeply dug, double digging or trenching being preferable, and in the process work in manure of a decayed character freely. After the digging the ground should be trodden down firmly, especially if light. Strawberries like firm rich ground, and when it is made compact moisture escapes less by evaporation, which is important during the continuance of dry weather immediately after planting. It is only when the surface is dry that treading the soil should be done.

Planting.—The absence of moisture in the soil renders the work of planting more difficult, and in order that success may follow, the young plants ought to be well moistened before lifting them from the ground where they have rooted. Lift a few at a time, and plant quickly in drills previously well watered. Work a little soil over the roots, and afford a copious watering to each plant. Finish with a layer of dry soil, which acts as a mulch to retain the moisture. A slight depression round each plant may be left for a time, so that waterings can be given to assist establishment. The rows ought not to be less than 2 feet apart, and the plants 18 inches asunder in the rows.

Gathering Early Apples and Pears.—As these approach the ripening stage they ought to be carefully picked and placed in a cool room. Most early Pears, such as Williams' Bon Chrétien, Citron des Carmes, Souvenir du Congrès, and Jargonelle are better for gathering before they become fully ripe. As soon as the fruits will leave the spurs when raised to a horizontal position they may be gathered. All the fruits on a tree will not be ready at one time, so frequent gatherings may be made. If the fruits remain too long on the trees they are mealy. If picked too early they shrivel in the store. Apples ought to remain on the trees until they change colour for ripening, as they are liable to shrivel when gathered too soon, and especially if stored in a warm room.

Collecting Fallen Fruit.—When fruit falls from the trees before it is nearly ripe, it is owing, in most cases, to the presence of a maggot in the fruit. These are the caterpillars of the codlin moth which eat their way to the centre of the fruits of both Apples and Pears, also Plums. The codlin moth is most destructive to the Apple, and causes fruit to fall in quantity. All these fruits should be gathered and destroyed, or given to pigs. Pears do not fall so much, though the caterpillars attack them. Plums do not fall until the fruit is quite ripe. Those that do fall are sure to be attacked, and many remaining on the trees may be sure to have the maggot in the centre if a small hole is found in the fruit. Gather infested fruits as soon as possible.

FRUIT FORCING.

Cucumbers.—Earlier closing and syringing is necessitated by the shorter days, it being desirable to husband the sun heat and have the foliage fairly dry before dusk. Employ fire heat to maintain a temperature of 70° to 75° by day and to secure 65° at night. Keep the shoots thin, remove old growths to make room for young ones, and so as to secure a succession of bearing wood. Stop young shoots a joint beyond the fruit. Encourage root action by a steady bottom heat of 80°, surface dressings of lumpy loam and sweetened horse droppings, and afford tepid liquid manure whenever water is required. Do not allow the fruit to hang after it becomes fit for use, and avoid overcropping.

Autumn Fruiting Plants.—Stop the growths so as to secure an even spread of bearing wood. Remove the staminate blossoms and tendrils, also the first fruits, or crop lightly. No shading will now be necessary. Cease syringing the plants in the morning, and only practise it lightly on bright afternoons, keeping the house damped as occasion requires. Admit air early but moderately, avoiding draughts, for chills stunt the growths, and a confined atmosphere causes the foliage to become thin and flabby. Endeavour to secure a sturdy growth whilst opportunity offers by early and judicious ventilation.

Winter Fruiters.—The plants from seed sown early in August are now fit to place in their fruiting quarters. The house must be a light one, have a south aspect, and means of securing a temperature of 65° to 70° in all weathers. A bottom heat of 80° to 90° is also necessary. All soil previously used must be cleared out, and the whole of the interior of the house scalded, if possible, with hot water, washing the woodwork with carbolic soap, water, and a brush, making the glass clean, and lime-washing the walls. Where rubble is used over and about the hot-water pipes for bottom heat, see that it is clean, if not take it out and cleanse it by washing. Secure the drainage with a layer of turves slightly charred, grass side downwards. Place in hillocks or ridges of soil of about 2 feet base, 10 to 12 inches in depth, and 1 foot across at top. Use turfy loam of medium texture two-thirds, fibrous sandy peat one-third, rejecting any woody matter; old mortar rubbish freed of laths or pieces of wood, with the rough broken small, one-sixth, and "nuts" charcoal one-twelfth, the whole well incorporated.

This material is suitable for plants in beds, pots or boxes, and should be made moderately firm. Pots or boxes must be well drained, and only so far filled with soil that when the plants are introduced their seed leaves will be about level with the rims of the pots, and as they will have some stem below the seed leaves which will admit of earthing as the plants increase in growth. Very serviceable fruits can be had from plants in pots or boxes in houses with a stove temperature. Plant when the soil is warmed through, press it gently, and secure the plants to stakes reaching to the trellis. Rub off the laterals to that height, and stop the leading shoot at about the second or third wire of the trellis. Shade from bright sun until established. Syringe lightly in the early afternoon, damp the house in the morning, noon, and afternoon. Maintain a day temperature of 70° to 75°, rising 10° to 15° from sun heat, and a night temperature of 70°, falling 5° through the night. The plants will give fruit in the late autumn, but they must not be cropped much if they are to produce fruit from Christmas to spring. Seed may now be sown for raising plants to give a supply of fruit about Christmas and onwards.

Peaches and Nectarines.—**Earliest Forced Trees.**—These are assumed to consist of very early varieties, which were started from December 1st to the new year. The trees are now shedding their leaves, and if infested with red spider or brown scale they may be syringed with water at a temperature of 140°. Hot water is one of the best means of destroying these and other insects, also low forms of vegetable parasites. It must not, however, be used injudiciously; if too hot it will injure the young wood and buds, and if lower in temperature it is innocuous as regards scale, also red spider, now about to hibernate.

The trees should be loosened from the trellis and tied in bundles to facilitate cleansing operations, then wash the woodwork with soap and a brush, also the ironwork, reaching every angle and crevice. Limewash the walls, and if required paint the wood and ironwork. Pruning will consist of thinning the shoots where crowded, or too weak for carrying fine fruits, no shortening being necessary except for shoots unduly long,

or for the production of growths for extension. The trees may be washed with an insecticide, being careful not to dislocate the buds. Tie the trees to the trellis loosely, leaving sufficient room for the swelling of the branches and shoots. Remove the loose surface soil down to the roots, and supply a top-dressing of rather strong loam, with a fourth of well-decayed manure admixed, and afterwards sprinkle a handful (about 4 ozs.) over a square yard of the following mixture:—Bonemeal (steamed) three parts, and two parts double sulphate of potash and magnesia, leaving it there, or merely scratching in with a fork. If the lights have been removed they need not be replaced until the weather becomes colder, and the borders have been thoroughly moistened by the autumn rains.

Succession Houses.—Any trees that have a tendency to over-luxuriance should, as soon as the wood gets sufficiently matured, have a trench taken out about one-third the distance from the stem the trees cover in extent of trellis and quite down to the drainage, so as to detach all roots, and this may be left open for a fortnight and then be filled in firmly; or when the leaves give indications of falling the soil may be removed down to the roots with a fork and picked from amongst them, laying the roots in fresh compost, and making quite firm. Good turfy loam, rather stiff, with about a sixth of old mortar rubbish form a suitable compost. A watering being given the roots will soon work freely in the fresh material, and the fruits will invariably set and stone well afterwards. The above plan is more especially necessary for young trees, the taking out of the trench being very effectual in assisting them to ripen the wood thoroughly. Lifting and root-pruning generally should be deferred until the leaves give indications of falling, for if practised too early there is danger of causing the sudden collapse of the foliage, and the shrivelling of the wood.

Late Houses.—The bright weather has greatly assisted late Peaches and Nectarines, which are not only earlier in ripening than usual, but something wonderful in size and beauty, and where proper supplies of water and nutriment have been provided during growth, the fruits are singularly juicy and high-flavoured. Late Peaches will, no doubt, be scarce this year, through ripening being accelerated by the hot summer, and the wood is more advanced in ripening than in ordinary seasons. A free circulation of air and supplies of water are necessary, but a rather drier condition at the roots is desirable when the fruit is ripening. Keep the growths thin, stop any growing shoots to about 15 inches, and all laterals closely to one joint as growth is made.



UTILISING BROOD FROM SKEPS.

OWING to the high temperature prevailing throughout the country there is now more brood in the hives than is usually found at this season. This is an advantage if the stock is well supplied with stores, as the bees hatched during early autumn will live until the following spring, when young bees will take their place. Bearing this fact in mind it shows the advantage of securing as many young bees as possible before the cold weather sets in, as the old bees will now die off at a rapid rate after the hard work of the past two months.

When driving bees from skeps or boxes we always make it a rule to cut out all the brood instead of placing it with the combs containing honey, so that the combs may be melted down for wax. When treated in this manner the brood is destroyed, and thus many valuable bees are lost. If the brood is cut out as each slab of comb is lifted from the skep, and placed in an empty box and protected from robber bees, it will not suffer although allowed to remain in this position for several hours. It will save much trouble afterwards if the combs are placed in the box in the same position they occupied in the skep, as if reversed they would give the bees much unnecessary trouble, and would not be a success owing to the peculiar shape of the cells. If the combs are utilised in a proper manner all the sealed brood and newly laid eggs will hatch in due course, and add greatly to the strength of the colony to which they are introduced.

To derive full benefit from spare brood, it is necessary to have frame hives which may be used for the driven bees, or the frames in which the brood has been placed may be given to other stocks which from various causes are weak.

PLACING THE BROOD IN FRAMES.

One of the many advantages of having spare frames is the ready manner in which they may be used by placing combs containing brood in them, and if the hives are all of the same size, it is a simple matter to strengthen any that are weak. The plan we usually adopt is to use raffia instead of tape, which is often recommended for this purpose. Commence by laying four pieces of raffia on a table. On these place an empty frame. The comb containing the brood should then be placed in position, and if they have been cut out square from the skeps, little trouble will be experienced so long as the combs are placed in the same position they occupied in the skep. When the frame is filled with sundry pieces of comb, bring the two ends of the raffia together at the top of the frame and

fasten securely. The raffia should be kept an equal distance apart, and when each piece has been tied the frame containing the brood may be lifted from the table, and if properly done the combs will be secure and there will be no danger of them breaking down.

The frames may then be placed in the middle of a hive containing bees, and in twenty-four hours the combs will be securely fastened to the top bar and the ends of the frame, when the raffia can be removed. It is advisable not to lift the frames out at this stage, as there is a danger of the combs breaking down. If the raffia is cut at the top of the frame it may be pulled out without disturbing the bees.

UNHEALTHY BEES.

Bee-keepers should ever be on the alert for any sign of unhealthiness among the bees. In districts where foul brood is known to exist very great care is necessary when driving bees from skeps, as a large apiary may soon become contaminated. A bee-keeper who has once seen a bad case of foul brood can easily detect it, and as the interior of skeps cannot be examined as readily as the movable frame hive it is only when bees are driven that a thorough examination can be made. Should any doubt exist it is better to destroy both bees and brood than to run any risk. Foul brood can usually be detected by the smell arising from it.—AN ENGLISH BEE-KEEPER.



•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," S. Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Attention to Raspberries (J. B.).—The old canes should be cut away now, or as soon as the fruit has been all gathered. This will give the young growths the benefit of more light and air, enabling them to ripen the wood better. Some, however, do not cut the old canes until the leaves fall, then tie up the young ones, shorten them to a height of 3 to 4 feet, according to their vigour, clear away the prunings, manure and point over the ground for the winter. We have tried both plans, and prefer the former—namely, cut out the old growths when done bearing fruit, tie up and prune the new canes shortly after the leaves fall.

Grapes Shanked (R. A. C.).—The bunch of Black Hamburgh Grapes had several shanked berries which greatly militated against its appearance and value. As the borders are both inside and outside you could not do better than renovate the inside part one year and the outside the following season, if the first operation has the effect of inducing fresh roots from the base of the Vines. We have seen the plan you propose practising quite rejuvenate the Vines, they producing splendid Grapes in the second year after removing the soil from about the stems to the extent of 4 to 6 feet, picking the old soil from amongst the roots and supplying fresh turfy loam, and lifting any roots available, laying them in nearer the surface. Numerous new roots were emitted from the root-stock or collar, and the Vines flourished accordingly. As you cannot procure turfy loam, the sandy clay loam, mixed with road scrapings, lime rubbish, and burnt refuse would form a good compost. This with the coating of manure on the surface, ought to improve the Vines, but do not mulch deeper than an inch, renewing from time to time. It would be an advantage to use 4 ozs. of the following mixture per square yard; bone superphosphate, dry and crumbling, three parts, and double sulphate of potash and magnesia, two parts, applying to the surface after renewing the border, and lightly scratching in.

Plums Under Glass (W. Raby).—The issue containing the article on this subject being out of print we cannot send you a copy; we therefore do the next best thing, reproduce the article, for the benefit of you and others. See page 199.

Gros Colman Grape Not Colouring (W. F. M.).—Probably the defect may be due to constitutional peculiarity, though the fact of the Grapes colouring fairly well the first season rather tells against that view. As you have tried lifting the Vine and adding lime rubbish to the soil, laying the roots in the fresh material nearer the surface, we advise your giving the Vine now a top-dressing of the following mixture:—Dissolved bones, dry and crumbling, three parts, double sulphate of potash and magnesia, two parts, mixed, using 4 ozs. per square yard, and pointing in very lightly or merely scratching or loosening the surface with a fork. In the early stages of growth the dressing may be repeated.

Eradicating Horseradish and Nettles (J. D. S.).—It is extremely difficult to exterminate Horseradish except by the very expensive process of taking out a trench at one end of the plot and as deeply as the roots of the Horseradish, following this by trenching to the other end and removing every particle of root. By cutting off the tops frequently the roots are correspondingly weakened and gradually dwindle away. This is the least expensive and the usual method pursued. Nettles are easily removed by digging up the creeping roots at any time, carefully removing every portion and burning.

Destroying Ants (Idem).—One plan, and that we advise, is to find out their nests and apply a solution of Fir tree oil insecticide or Lemon oil insecticide prepared according to the instructions supplied with the article; or use soluble phenyl-1 fluid ounce to 3 gallons of soft water. If the nests cannot be reached they may be poisoned as follows:—Place 1 oz. of white arsenic in an iron pot with a quart of water, and boil until reduced to a pint or a little more of liquid, to which add $\frac{1}{2}$ lb. of coarse sugar. This mixture can either be dropped about the runs and around the nests or placed in saucers in the haunts of the ants. It is very poisonous, and must be used with the utmost caution. If you wish for a prepared article formicacid, advertised in our columns and sold by all seedsmen, will serve your purpose.

Disposing of Willow Trees (Wakopa).—The Willow trees are much too small for the purpose you name—"suitable for making cricket bats"; at least, some we had of the largest sizes mentioned were so considered by a timber merchant who supplied Willow timber to a cricket bat maker, being too soft for the purpose. The price offered was nominal—10d. per foot. Consult a timber merchant, and ask for an offer. There is a great difference in the solidity of Willow trees, due mainly to the soil and situation in which they grow, hence only those acquainted with the timber variations and fitness for particular purposes could form an opinion of the value. The highest price we know was 3s. per foot, but the tree was an excellent one, and the wood fine grained, not short and brittle, but long and elastic, and withal light for the solidity.

Slaughter House Manure for Vine Border (Bullock).—The best way to prepare slaughter house manure for use on a Vine border is to mix it with an equal proportion of dry wood ashes, then cover the heap, formed in a shed, with dry loam. This will heat, but it must not be allowed to do so violently, turning, if necessary, at short intervals, as in preparing short stable litter and horse droppings for a Mushroom bed. After heating, and this on the wane or even becoming apparently cool, turn the heap and again cover it with dry loam. In about six weeks repeat the process, and again at a similar interval. After laying another six weeks the heap will be rich, crumbling material, and may be used on Vine borders or for fruit trees at the rate of 1 lb. to 2 lbs. per square yard, pointing in very lightly. Another way is to mix the slaughter house manure with loam, preferably turfy, in alternating layers, 3 inches in thickness, first a layer of loam, on which sprinkle 4 ozs. of basic slag phosphate and 2 ozs. of kainit per square yard, then the slaughter house manure. After laying about six months turn outside to inside, and top to bottom, and with another turning six weeks afterwards and then laying a similar term, the heap forms a rich compost, excellent for top-dressing. To prevent sourness about 1 per cent. of ground gypsum should be mixed with the compost at the final turning.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (W. F. M.).—Duke of Edinburgh. (S. H. G.).—1, Early Rivers; 2, Early Victoria; 3, Royal George. (P.).—1, immature, possibly Alfriston; 2, Reinette du Canada. (A. J. K.).—1, Bourré Précoce; 2, Belgian Purple; 3, Lady Henniker; 4, Devonshire Quarrenden; 5, Worcester Pearmain; 6, Duchess of Oldenburg. (D. R.).—Yellow Magnum Bonum. (W. B.).—Not one of the Pears you send is in a fit

condition to be named. Kindly read the instructions above, and send again when the varieties closely approach ripeness. (W. B.)—Apple unknown, probably local; Pear Maréchal de la Cour. (C. H. B.)—1. Beurré Bos; 2. Durondeau; 3. Monsellard; 4. Caillot Rosat; 5. round fruit of Louise Bonne de Jersey; 6. unrecognised.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (F. J. B.)—1. *Lonicera tatarica*; 2. *Rhus cotinus*; 3. *Staphylea pinnata*; 4. *Daphne cneorum*. (C. G.)—1. *Gypsophila paniculata*; 2. *Trachelium cœruleum*; 3. *Achillea ptarmica*; 4. *Campanula garganica*; 5. *Helenium autumnale*; 6. *Coreopsis Drummondii*. (H. W. A.)—*Adiantum concinnum*; *Vallota purpurea*, the Scarborough Lily. (J. R. M.)—Your specimens were rather small, but so far as we could determine represented, 1. *Cupressus Lawsoniana*, seedling form; 2. *Picea pinsapo glauca*; 3. *P. excelsa transbrasilensis*; 4. *Juniperus caicensis*; 5. *Veratrum nigrum*; 6. *Hemerocallis fulva*.

COVENT GARDEN MARKET.—AUGUST 30TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2 0	3 0	Nectarines, per doz.	8 0	9 0
Corrants, black, per sieve	6 0	7 0	Peaches, per doz.	8 0	9 0
Figs, green, per doz.	1 0	3 0	Pears, Californian, case...	8 0	6 0
Grapes, black ...	0 6	8 0	" French Williams,		
Greengages, box of 40 to 48	1 8	2 3	" 36 to 56 in a case	4 0	5 0
" French, sieve	5 0	8 0	Pines, St. Michael's, each	8 0	6 0
Lemons, case ...	14 0	20 0	Plums, English, per sieve	6 0	7 0
Melons ... each	0 6	1 6	" Californian, case...	4 0	8 0
" Rook ...	1 9	2 6			

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1 0	2 0	Lettuce, doz.	1 8	2 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb.	0 6	1 0
Beans, ½ sieve ...	2 6	3 6	Mustard and Cress, punnet	0 2	0 0
" Scarlet, sieve	2 6	3 0	Onions, bag, about 1 cwt.	4 0	4 6
Beet, Red, doz.	0 6	0 0	Parsley, doz. bunches	2 0	4 0
Cabbages, per tally	7 0	0 0	Peas, per bushel	6 0	8 0
Carrots, per doz.	2 0	8 0	Potatoes, cwt.	2 0	6 0
Cauliflowers, doz.	2 0	8 0	Shallots, lb.	0 8	0 6
Celery, new, per bundle	1 9	0 0	Spinach, per bushel	0 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	4 6
Endive, doz.	1 6	2 0	Turnips, bunch...	0 8	0 4
Herbs, bunch ...	0 8	0 0	Vegetable Marrows, doz.	1 0	1 6
Leeks, bunch ...	0 2	0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums ...	8 0	4 0	Marguerites, doz. bnchs.	3 0	4 0
Asparagus, Fern, bunch...	2 0	2 6	Mignonette, doz. bunches	4 0	6 0
Carnations, 12 blooms ...	1 6	2 6	Montbretia, per bunch	1 0	1 6
Cattleyas, per doz.	12 0	18 0	Odontoglossums ...	5 0	7 6
Eucharis, doz.	4 0	6 0	Pelargoniums, dozen		
Gardenias, doz.	1 6	2 6	bunches ...	4 0	6 0
Geranium, scarlet, doz.			Roses (indoor), doz.	2 0	8 0
bnchs. ...	4 0	6 0	" Red, doz.	1 0	2 0
Lilium Harris, 12 blooms	8 0	4 0	" Tea, white, doz.	1 6	2 6
" longiflorum, 12 blooms	4 0	6 0	" Yellow, doz. (Perles)	2 0	8 0
Lily of the Valley, 12 sprays	0 0	15 0	" Safrano, doz.	2 0	2 6
Maidenhair Fern, doz.			Smilax, bunch ...	8 0	4 0
bnchs. ...	4 0	6 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	8 0	Fuchsias, doz.	4 0	6 0
Aspidistra, doz.	18 0	36 0	Heliotropes, doz.	6 0	9 0
Aspidistra, specimen	15 0	20 0	Hydrangeas ...	6 0	10 0
Crotons, doz.	18 0	30 0	Lilium Harris, doz.	12 0	18 0
Dacena, var., doz.	12 0	30 0	Lilium lancifolium album	80 0	40 0
Dracena viridis, doz.	9 0	18 0	" rubrum	80 0	40 0
Erica various, doz.	80 0	60 0	Lycopodiums, doz.	3 0	4 0
Eucynmus, var., doz.	6 0	18 0	Marguerite Daisy, doz.	6 0	8 0
Evergreens, var., doz.	4 0	18 0	Myrtles, doz.	6 0	9 0
Ferns, var., doz.	4 0	18 0	Palms, in var., each	1 0	15 0
" small, 100 ...	4 0	8 0	" specimens ...	21 0	68 0
" elastica, each ...	1 6	7 6	Pelargoniums, scarlet, doz.	4 0	6 0
Foliage plants, var., each	1 0	5 0			

Bedding out plants in variety from 8s. doz.

TRADE CATALOGUES RECEIVED.

W. Clibran & Son, 10 and 12, Market Street, Manchester.—*Bulbs*.
J. Craven & Co., 2, Manners Street, Wellington, New Zealand.—*Seeds*.
Dobbie & Co., Rothesay, N.B.—*Bulbs and Plants*.
S. Dobie & Son, Heathfield Gardens, near Chester.—*Winter and Spring Flowers*.
Fisher, Son & Sibray, Ltd., Handsworth, Sheffield.—*Bulbs and Flower Roots*.
H. J. Jones, Lewisham.—*Bulbs and Tubers*.
Junior Army and Navy Stores, Ltd., London.—*Bulbs*.
Little & Ballantyne, Carlisle.—*Bulbs*.
R. Pringle, 40, Belvoir Street, Chester.—*Bulbs*.
B. Soddy, Walworth Road.—*Bulbous Flower Roots*.
R. Sydenham, Birmingham.—*Bulbs*.
Toogood & Sons, Southampton.—*Bulbs and Roots*.
Vilmorin, Andrieux & Co., Quai de la Mégisserie, Paris.—*Bulbs*.
E. Webb & Sons, Wordsley.—*Bulbs*.



MILKING.

WHAT an unnecessary topic! will say many of our readers. Surely milking is such very elementary work that we need no guide or hint at all. We have milked from our youth up, or, if not, surely if we watch the milker a time or two we shall know all there is to know? Not at all. To begin with, it is most frequently on the simplest subjects that the greatest ignorance is shown. So much is taken for granted, and people are either ashamed to display their ignorance by questions or too shy to subject themselves to possible railery. It is such a pity to find things badly done just through sheer carelessness or culpable ignorance!

A cow in full milk is a most valuable animal, and it behoves those who have the charge of such to be most careful and trustworthy. The flow of milk can be so easily arrested, if not entirely stopped, and not only is this serious for the poor cow-keeper, but it also affects the after welfare of the cow. Many a good cow has been spoiled for life by bad or indifferent milking. We have known good cow men—that is, good at feeding and cleaning and looking after cows—who simply were not fit to milk; they ruined every cow they touched. They might know it themselves, but were loath to confess it. Taken all in all, women make the best milkers; but the difficulty is to get women who will milk. It is not the cleanest of work, and it must be done twice a day with the greatest regularity. If the year were all summer it might not be so objectionable, but there are the dark, cold winter mornings when the hands, if not the whole body, are chilled, the light only a lantern or more or less smelling paraffin lamp. The days are too short to wait for more light, and the work has to be done betimes.

Of course as in human beings, so among cows, there are differences of disposition—fractious cows, ill-tempered cows, and placid cows, and we may expect to meet all sorts in a dairy herd of any size. Milking is the "rite" of the day, and cows and milkers must perform that "rite" in a proper frame of mind. We are now thinking of summer time, when the cow pasture is far from the homestead, and the cows have to be brought up for milking time. As a rule the cow is a slow mover; given an udder full of milk a quick pace would be most uncomfortable, if not even injurious. We hate to see a dog used to fetch the cows home.

We dislike also to see a silly careless lad sent. The lad probably has several projects in his mind, and will get vexed and irritated by the slow pacing of the cows. What cares he if they come up at a mad gallop, rushing and forcing their way through the yard doors,

giving each other unintentional butts and shoves, to the possible detriment of the in-calvers. There is nothing like hurry for spoiling the flow of milk or making it deteriorate in quality.

We know quite well the ill results that may come from improper feeding, but there are quite as many ill results from injudicious management, and the worst of it is these causes are not suspected. We knew a case this summer where the cowman was laid aside for a week, his place being taken by a lad, no one else being available. The food was identically the same, but the churn showed a deficiency of over 12 lbs. of butter, and this was only in a small dairy. The cows never caught that lost ground up again, and that cowman's illness was a dear one to his master.

Now, as to the actual milking. Remember the orifice of the teat is not big, and only a certain volume of milk can come at once. Do not by hurrying, try to force a quicker flow—it only causes the poor animal pain, and she will probably try to get rid of her tormenter by a judiciously planted kick. We do not blame her, but she gets the reputation of a kicker, and is punished accordingly. Of course the milking may be too slow as well as too fast, but it is best to err on the side of slowness.

Remember, too, the last drops are the richest, but do not drain and drain till the cow is fidgetted beyond endurance. The milking wants to go at an even pace, and women invariably are better than men. They, or rather their hands, have a more coaxing way with the teats. Sometimes when a cow is a bit queer tempered she can be humoured. Try the effect of the lollipop business; give her a bit of dainty food; she will be so taken up with that, that she will forget to be ill-natured; coaxing is always better than scratching. You see it is necessary to be a bit of a diplomatist. Your end is a full milk pail, and if it cannot be attained by one means, it can by another.

We come now to a point that ought not to need mention, but alas! such is human nature. Cleanliness should be written in large letters over every cow house and milking shed. Milk is the most easily contaminated of all feeding stuffs, and it is a horrid thing to think that the milk we use for every meal in some shape or other maybe, has been full of foreign matter of a most unpleasant nature. Cows want as careful grooming as hunters. Do they get it? Our readers shall answer that question themselves. We know some consciences will prick if they are not too callous. Is the udder ever cleaned? What about the teats? If we all could be imbued with a true horror of dirt, the difficulties of our sanitary workers would be reduced to a fraction. Then about the hands of the manipulator. Whoever saw a labouring man with properly cleansed hands? In fact, he cannot do it, the cracks and the fissures are generally so great, the nails kept in such bad condition, that nothing but scalding and scraping would make them tolerably decent.

Now, with a woman it is different; her hands are so much in soap and water. She is for ever scrubbing and rubbing, that her hands are clean. There, you see, she has the pull of the men milkers. Clean dry hands are what we should aim at. A clean person, wholesome print frock and large over-all apron, hair neatly confined out of the way, pails that shine like silver, a clean milking stool, plenty of air and light. A tidy head may sound laughable, but be it known that one of the first lessons taught to school children in the cooking classes is to get their hair well out of sight and mind.

It is a pleasant idea milking in the fields, and where the fields are not far from the homestead the practice is commendable; but a dewy meadow is not pleasant for a milkmaid's feet or skirts, and she ought to be there before the dew is absorbed.

Milk is not improved by being jolted along in a barrel on wheels before the operations of straining, setting, or separating. We are almost of opinion that an hour or two in the cow house is not a bad rest and change for the cows on a hot summer day. Some pastures, through lack of trees, are so very bare of shelter; and irritating flies do not, or ought not to be found in a properly managed cow house.

WORK ON THE HOME FARM.

The rain after all was only temporary, and barely sufficient to revive the flagging Turnips; the harvest was hardly hindered for a moment, and capital progress has been made. Practically all is cut and half is in the stackyard. Another week will see nearly all complete.

The threshing-machine is already hard at work, and reliable reports are not very encouraging. Wheat is not yielding the weight of grain expected, though the quality is good and there is not much small. Barley, judging from very meagre reports, is of good colour but lacks quality, and there is a large proportion of thin corn. Oats we have spoken of before.

Binders have been invaluable, and have worked marvelously well. No doubt farmers and their men are beginning to master their peculiarities, and so make better work; but this season's crops have been more favourable to the binder than those of the last year or two. Still the self-binding problem appears to be satisfactorily solved. That the binder will ever be able to cut and tie wet corn is not to be hoped, much less wished for. Nothing is gained by reaping when the straw is damp, especially in the case of Barley, and it is a positive advantage to the farmer that his binder refuses to do its work amongst a wet crop.

Stacks must be thatched as soon as possible, the finer and hotter the weather is now the more likely are we to have a deluge when rain does come, and there have been several cases of serious damage to grain in the stack after an easy and favourable harvest time. Thatch the Barley first, and begin with the best. Do not use more pegs than necessary, but see that the lower row has good ones and securely fastened. Use good string. Reaper string is as good as anything, and it comes in handy afterwards for other purposes. Do not cut the eaves too short and then have to shave several inches off the stack side to make it drop-dry.

Lambs are doing fairly well and keep healthy, as they usually do in a dry time. They are now quite unsaleable, for no one knows whether there will be any Turnips or not. Possibly when the grub plague has spent itself, the plants which are still alive may improve into half a crop, but that is all we can hope for. There is a good deal of weeding to do as soon as we can get away from the harvest.

HIGH PRICES.—A friend reminds us that last year Mr. Henry Dudding made 1000 guineas of a ram. That was nice for him, but would do little to comfort the scores of ram breeders who could not manage to procure a poor 7 guineas a piece. There are always "kings" at the head of every profession or calling, and Mr. Dudding is crowned king among ram breeders.

A DANISH PRESERVATIVE.—It is recorded that Mr. N. P. Jensen has succeeded in preserving milk, so as to retain its fresh and pure taste for a long period. A test with seventy bottles of milk exposed to varying temperatures for a long time (how long is not yet stated) gave a most satisfactory result. The contents of only two of the bottles experimented with showed a slight change in quality, and this was traceable to want of the required care in the preparation.

HORNBEAM HEDGES.—Hornbeam is not, says a contemporary, so largely employed as a hedge plant as it might be. Mixed in equal proportions with ordinary Quicks the Hornbeam makes a very effective fence, and it is specially adapted for being planted on high elevations, where other hedge plants would not succeed. It bears pruning very well, and in a very few years grows to a size which enables it to resist the inroads of stock, and at the same time to afford considerable shelter.

HAY CROP.—In a summary of a number of reports which it has received regarding the hay crop in Great Britain, the "Times" estimates the yield this year at 23½ cwt. per acre over Great Britain. These figures bear very unfavourable comparison with the corresponding estimate last year, when the yield as similarly calculated was 34 cwt. In 1897 the yield was estimated at 29½ cwt., but in 1896 it only amounted to 21 cwt. From some of the southern counties the reports regarding crops return it as averaging only from 10 to 12 cwt. per acre, but as against this there are others, such as Cumberland and Westmoreland, which give the crop as having yielded 50 to 55 cwt. per acre.—("Rural World.")

THE MURRAIN WORM.—In the autumn of 1898 Miss Ormerod received an account of an insect which was believed to cause a sort of murrain in cattle, owing to its being swallowed by them when they were feeding along ditches or other watery places. According to Mr. Wade, a cow thus affected is feverish, with tongue swollen, and difficulty of breathing. The complaint usually yields to remedies, and in several cases an insect was taken from the mouth which turned out to be the curiously formed and handsome caterpillar of the elephant hawk moth. As far back as 1887 it appears instances were recorded of this caterpillar being licked up or swallowed by cows, with mischievous results, and such belief is said to be common through Munster. It is quite presumable that a caterpillar of this moth might be occasionally taken up with a mouthful of herbage, but extremely unlikely that it should do any harm, and Miss Ormerod considers the injury received is attributable to browsing on some of the marsh umbelliferous plants.—ENTOMOLOGIST.

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Journal of Horticulture.

THURSDAY, SEPTEMBER 7, 1899.

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THE HOLLYHOCK.

THE cultivation of the stateliest of hardy autumn flowers largely resolves itself into the most certain method of combating the now well-known Hollyhock disease, which may precipitate its attack either upon the infant plant when it cannot be defeated, or it may wait till the plant has become established and strong, when the outcome is less certain. It is possible to trace the Hollyhock as a cultivated plant from the fourteenth century, its earliest appearance having been, as a medicinal herb, grown in gardens for its roots or "lickis." Even when it attained the status of a garden flower we find it relegated to out-of-the-way corners, or placed close to the bottom of walls where its towering superiority was least conspicuous. But during all the centuries down to the present it was treated as a biennial, the stock having been without exception always increased or renewed from seeds sown out of doors. No allusion whatever is made to the disease or to its evil effects.

Growers for decorative purposes have now largely reverted to the old system, but, unfortunately, not with the same success that attended the gardeners' efforts of past times. I myself am not singular in failing to secure to young plants freedom from disease during the period intervening between the seedling stage in July, the usual time, and autumn. Whether bedded out in the open, or grown in pots, I have experienced equally bad results in diseased foliage, and, following that, roots that failed to grow. The effects are not invariably equally bad, but one is at no time certain of securing a healthy stock by this means. I have also more than once raised plants from seeds sown in January in heat and grown in a warm temperature, which, in so far as freedom from disease is concerned, is a satisfactory practice. But this system of crushing into less than a year the whole life of the plant has not been attended by complete success, because all the plants are late in flowering, and a proportion fail altogether to reach the blooming stage; a drawback which is, however, perhaps confined to our northern climate.

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safe from attack of puccinia, I have adopted a compromise between early summer sowing and plant raising under glass in January. The seeds by this method are sown in the end of August or the beginning of September, the latter being the preferable time, as the seedlings require merely to be pricked off into boxes other than those in which they were raised, and potted in late January; whereas those from the earlier sowing grow so strongly as to require potting in October, necessitating another shift in spring in order to do the plants justice, and the result in either case does not greatly vary when the flowering stage is reached. The seedling boxes are placed in a cool house, and kept there until the young plants have been transferred to other boxes. During winter they are kept in a perfectly cold pit, sometimes in a temperature below the freezing point, but absolutely dry atmospherically. Very little water is applied to the soil during the whole of the earlier period of the existence of the plants, which are ready to plant out some time towards the end of April or the earlier weeks of May, up to which time there is no reason to expect the appearance of the dreaded disease, which is due solely to atmospheric conditions. The attacks vary considerably in virulence in different districts, though it is more or less generally distributed throughout the country.

The desire to keep the enemy at bay, or to at least lessen the result of its infestation, induced me this year to plant the stock, numbering some 300 singles and doubles, in ground that was unmanured till after the young plants had taken hold, when a dressing of superphosphate was applied. Though the above treatment did not save the foliage from infection, it proved that the Hollyhock may be well cultivated without the aid of farmyard manure. The plants have indeed grown much more vigorously and taller than one wished, and for ordinary decorative purposes it might perhaps, as a rule, be advisable to grow them altogether without manure. The whole 300 plants formed part of a decorative scheme in borders of hardy plants, some being grouped in colours and others dotted, one or more plants, throughout the borders, and one's feeling with regard to those rising to a height of 10 or 12 feet was that nothing would have been lost in general effectiveness had they stopped growth 2 or 3 feet nearer the ground.

Returning to the treatment of the plants. As the puccinia put in an appearance shortly after planting, a system of regular spraying of the foliage was instituted with very good results. The material used was sulphide of potash, prepared by Messrs. Bentley, Hull, in the form of sulphuretted potash, an easily soluble dressing, and costing about sixpence for each single application. The disease, however, obtained a grip during a week of "muggy" warm weather in July, during which time spraying was discontinued. The results as a whole were eminently satisfactory, and the sprayed Hollyhocks have been better than any we have had for a great number of years. Another year I intend to try a Potato fungicide, and I have been wondering if any Journal people have any hints gained from personal experience to offer on the subject. That remedial measures may, as I have just said, be followed by a certain amount of success, I have proved to my own satisfaction, and if other growers will give the results of their practice I am convinced the publication will be appreciated by many other readers besides myself.

Last year I saw some very pretty single forms of Hollyhocks in an Essex garden, but lovely as the colouring is in many of the flowers I have grown this year, I should hesitate to recommend them in opposition to doubles, which are, as decorative plants, altogether superior to single varieties. Moreover, the plants most cut up by disease have been singles; but one cannot count much on that, because of the capricious nature of these parasites. At the same time I could not help remarking how plants in close proximity to each other were variously affected, one being quite clean, and alongside it another badly smitten, pointing, perhaps, to constitutional defects, as in the case of the Potato.

I have also this season made a few experiments with regard to staking. Stakes, at the best, are things to be deprecated, and I am pleased to find that stout short sticks have proved as effective in supporting the plants as the usual lengthy ones.—R. P. BROTHERSTON.

FROM WEST TO EAST.

FROM the Welsh border to the German Ocean by seven trains, stopping at all stations, seven changes, five rushes and two rests, is suggestive of what might have happened in the early days of the railway era. A journey of 202 miles in twelve hours might have been regarded as a feat then by the railway companies, and it was felt somewhat of a feat now by two half-roasted passengers in the tents at Shrewsbury, to get from that historic centre in the morning to cool themselves at Cromer in the evening, as they began to fear they would have to spend a night on the way. As it happened, however, they were fortunate, as by leaving by the 10.20 A.M. they actually reached their destination by 10.40 P.M., and soon forgot the anxieties of the journey.

It happened in this way. The younger of the two gardeners, who had been working hard in the over-heated show tents, thought he was not very well, and as he remembered having derived considerable benefit by a sojourn on the breezy Norfolk coast last year, was seized with an inclination to go again. The elder, also tent-sweltered, on being consulted, thought that he himself was in urgent need of ozone, and his junior of fatherly attention, and arrangements were forthwith completed. "Bradshaw" is helpful, useful, and generally reliable, but when it guides trains into contact with the Shrewsbury Show the latter proves the stronger, as setting time tables at defiance.

Instead, therefore, of the 10.20 for Stafford arriving "on time" a "special" took its place and emptied its cargo of humanity. Then another, a third, and a fourth, while the "regular" was resting behind. It managed to creep in later, and it then crept on, resting at every station, and only arriving at Stafford too late for the Rugby express. Change, wait awhile, then go on with the "slow" to Rugby; change here again, wait an hour, and "catch" another "slow" to Northampton. Arrive just in time for still another of the same steady-going kind for Peterborough, where the Eastern train was impatiently panting to get out of the station, hardly giving passengers time to get in. After a merry rush of about five minutes it was a case of a few getting out, and so on till March was reached, when the disturbing sound was heard—"Change for Ely and Norwich."

Let us take a glance back at the country. We solaced ourselves by agreeing that the trains gave us an opportunity for seeing the most of it, instead of whirling us past everything, without seeing anything in particular. The junior is a southerner, and had to battle with the drought; and the senior had been a witness of its scorching effects. Very different were the fields and banks in the Midlands. In the south they were either black or nearly white—black by burning through sparks from passing engines, white or hay coloured by weeks of scorching sun. Through the counties of Salop, Stafford, and Northampton they were more or less refreshingly green, and station flower gardens fresh and bright. What may be regarded as a bountiful harvest was gathered in, and field root crops were 100 per cent. better than south of the metropolis. Orchards, however, did not appear to be anything like half laden with fruit, and perhaps the majority of trees within the line of vision were barren. So much for the Midlands, now to the eastern counties.

The flat Fen lands from Peterborough on to and beyond Ely astonished the young "invalid." He opened widely his eyes on seeing acre after acre of Potatoes in luxuriant growth as green as in June, with light shining green stretches of Mangolds, and between and beyond them miles of Wheat like a billowy sea of sheaves and stooks and uprising stacks extending to the horizon. Passing lush banks of spring-like grass and crossing streams running straight as a line for miles, the dried-out traveller brightened up and felt cooler than he had been for two months. "Nothing like a 'change' for bringing health," he remarked, though he had experienced five "changes" and had two more to follow, one of which seemed to trouble him. The summer, that has been so exhausting, not to say disastrous, to many Turnipless farmers in the arid South, has evidently been an ideal one to their brethren in the Fens, and no one will begrudge these of their fortune in grain and roots, for how they "live" in wet seasons is somewhat of a mystery.

From March we traverse a great, but rich expanse, as flat as a table, and after sundry "stops" the picturesque pile of Ely Cathedral comes into view, with the little city nestling around it embosomed in trees. It cannot be described as an oasis in the desert, but rather as an umbrageous mound in an almost treeless plain. The flat goes forth, "Charge for Norwich," and there we find a wait of over an hour. The junior begins to despair of reaching his destination without a night on the way. He seems a trifle unsettled, and at last summons courage to ask if I have any "change?" This means of the kind that bears her Majesty's imprint. Well, yes, I think

I have enough to keep us for a night or two; are you running short? "Rather; you see it is in this way—at Cromer I pay by cheque, and the landlord of the "Lion" will cash me to any amount, and I don't keep much more of the loose about me than I am likely to want." This was something of a novelty, I thought, and "novelties" are always noted in the gardening world. Fancy a still young gardener paying "by cheque!" It is to be feared there are not a multitude of them who do so. This one, however, was as good as his word, as he always is; and he deserves all he has earned, for it has been won by known skill as a gardener, and something more, sound judgment, prudence, and honest work. We run into Norwich just in time for a train out, and at last, tired as do s, and quiet as lambs, we enter the cosy den of the "Lion" an hour before midnight, the waves of the North Sea almost washing its walls.

Cromer, cool Cromer! Where can a breezier place be found and more refreshing in the dog days? We look to the North and drink in the pure air from "Greenland's icy mountains." Up in the morning we look to the East and see the sun rise as if out of the blue waters; and turn westward at night to watch it steadily sink into the sea. Not in many places can the same be witnessed along the English coast. At midday, when the London temperature was 90° in the shade, the sun temperature on the Cromer beach was so subdued as to render parasols superfluous. Though the days were as bright as days could

THE CALLUNAS.

CALLUNA VULGARIS, the common Ling, is a well-known plant in this country, brightening as it does so many acres of moorland in England and Scotland with its brilliant purple spikes of flowers during the months of August and September. It is worthy of a place in the garden, more especially for those bleak spots which are either too dry or too rough to grow anything else. On the Surrey Downs a week or two ago it was, and probably still is, flowering profusely, where it has been fully exposed to the force of this summer's sun; and the plants look healthy and well, though the ground is as hard and dry as it can possibly be. The Ling succeeds equally well in sunshine or shade, but it will not grow in a place that is very wet or that contains much lime.

All the attention that need be given it is to cut away the flower spikes after the blooming period is past, to keep the plants in good shape and of stout growth. This pruning is more especially required for the varieties that have been raised from it, some of which are far superior to the type. A few of the best are Hammondi, with pure white flowers, a large and vigorous grower; aurea, with golden coloured foliage and purple flowers; alba aurea, with white flowers; cuprea, with copper-coloured leaves and stems, looking at its best in the spring time; Serlei, a handsome white flowered plant; hypnoides, a compact purple flowered form; alba rigida, with white flowers and a stiff branching habit; tenuis, purple flowers, the earliest to open; and flore pleno, the double flowered form. In addition to these there are a few varieties, such as minima, a prostrate spreading plant, with small purplish-white flowers; pygmaea, a small

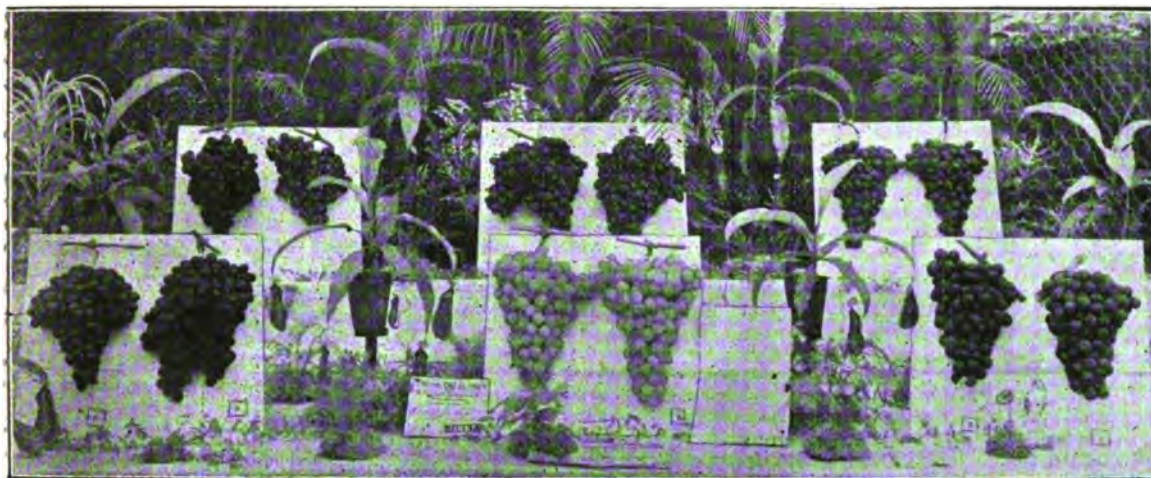


Photo by Mr. W. W. Naunton.

The Calluna, Shrewsbury.

FIG. 41.—THE CHAMPION GRAPES.

be, they did not appear one degree too hot for exercise, while to sit an hour by the sea brought a suspicion of chilliness. A cool, quiet, restful place is Cromer, healthful and invigorating, with a few good gardens, not round about, for it is half encircled by the sea, though we have not far to go inland to see them. The little town-like village is as clean as a new pin, with a splendid church in the centre, larger than is seen in many places with five or ten times the population, yet on Sunday overflow services are held in the Town Hall during the season of visitors.

The demand for fruit is great in the summer, and the supply splendid. No finer Grapes or better Melons can be seen in London than in Mr. Burns' shop near Cromer Church. As an ex-gardener, Mr. Burns knows what is good. Black Grapes, equal to any at Shrewsbury, attracted attention from Mr. Shingler, who was a first prizeman at the great Show, while the new Gunton Scarlet Melon, which has been honoured by the R.H.S., could not be supplied fast enough by Mr. Allan to meet the demand of consumers who have found it out, and do not want any other. All other fruits in season are of the best procurable, and Tomatoes have to be supplied in enormous quantities to meet the requirements of hotels, boarding-houses, and private families. But local growers are equal to the wants of all, and certainly no better samples of bright, round, smooth, uniform, and medium-sized fruits, six or eight to a pound, could be seen anywhere. Flowers are also abundant, and far fresher and finer than those grown in the parched fields and gardens of the south of England.

(To be concluded.)

THE CHELSEA PHYSIC GARDEN.—We learn that this garden is now to be placed under the care of a Curator Mr. William Hales, who has been during the past three years in the Royal Gardens, Kew, and previously in the Birmingham Botanic Gardens, has been appointed.

rounded tuft with curiously stunted growth; and Foxi, about 2 or 3 inches high, and of a very compact habit, which are perhaps more interesting than pretty.

Some of the varieties of the Ling are very suitable for use in beds as undergrowth for taller plants or for an edging along the fronts of borders where something informal is required. These are all readily propagated by cuttings.—C.

NOTES ON PINES.

YOUNG Pine plants always present a luxuriant appearance at this season under proper treatment, this arising from the beneficial effects of natural causes so important in cultivation. These influences being now on the wane, greater care will be necessary in the management to prevent the growth becoming soft, and measures should be taken to prevent it by affording conditions likely to consolidate the growths, such as a drier atmosphere, and, if necessary, artificial warmth.

Syringing will only be needed occasionally, and it should be done early in the afternoon of bright days. Water must only be given when absolutely necessary, then afford a plentiful supply of weak liquid manure in a tepid state. The bottom heat should be kept steady at 85°, or between 80° and 90°. Particular attention must be paid to the ventilation, which is very important at this time of year. Plants in a luxuriant condition should have air at 80°, above which ventilate liberally, especially on warm days, and close the house for the day at 80°. The night temperature ought to be maintained at 65°, allowing 70° to 75° by day artificially.

Fruiting plants must not further be detained in structures indiscriminately, but should be brought together in a house suitable for finishing the fruit well. Plants that are intended for starting into fruit early in the year should be selected from those that were started last spring, and be arranged, not later than the end of this month, where they can rest for six weeks. Those on which the fruit is swelling must be encouraged with a liberal amount of heat and moisture, keeping the night temperature from 70° to 75°, and that in the daytime from 80° to 90°, closing the house at 85° with sun heat.—GROWER.

EXHIBITING GRAPES—A DISQUALIFICATION.

I HEREWITH enclose copy of the schedule of the Great Malvern Show, which was held on the 31st ult. The Society offered prizes for decorated dessert tables, each table to contain six dishes, distinct kinds of fruit. I exhibited in this class, and the Judges awarded my table the first prize, but their attention was called to the alleged fact that only five distinct dishes were exhibited, and the table was disqualified, because it was maintained that black and white Grapes were not distinct. I append a list of the fruit—namely, one dish each of Gros Maroc Grapes (two bunches), Muscat of Alexandria (two bunches), Melon, Peaches, Figs, and Nectarines.

I have always understood until this instance that black and white Grapes were recognised as distinct kinds of fruit. Will you, through the medium of the *Journal of Horticulture*, give your opinion as to whether the Judges were justified in disqualifying the table, or not?—J. JONES.

[We observe that in setting forth the conditions of the class in question the compilers of the Malvern schedule substantially followed the terms of the decorative dessert table class in the Shrewsbury schedule, but omitted what is there made clear on the point in dispute. Black and white Grapes are there regarded as distinct, and in judging, points were given for them accordingly. In the "collections of fruit" it is precisely stated that "black and white Grapes will be distinct kinds." This is also specifically allowed in the R.H.S. "Rules for Judging," par. 3, page 6, of which a copy can be had for 1s. 6d. from the Secretary, 117, Victoria Street, Westminster. Moreover, it is so nearly the universal custom to admit black and white Grapes as distinct kinds of fruit for the purpose of exhibiting, that we should so regard them at any show, unless the schedule contained a special note to the contrary. We see no such note in the Malvern schedule, and we should not have disqualified any collection on the grounds stated had we officiated in the class, nor would many widely experienced judges. Rule 8 of the Malvern schedule states, "The awards of the judges shall in all cases be final and conclusive as regards merit." If our correspondent makes no mistake the judges awarded him the first prize. In this case was it not awarded because they considered his table the most meritorious? There are two sides to most questions in dispute, and we should rather like to "hear the other side" in this case.]

LIVERPOOL NOTES.

ERYNGIUM OLIVERIANUM.

OF all the beautiful flowering plants in the herbaceous border none has been more admired or more useful in a cut state than this charming "Sea Holly." It is one of those good things too seldom met with; consequently when it appears in such splendid condition as seen this year the list of devotees becomes rapidly greater. Not only is it large in the flower, but the intense blue of the heads and spines of silvery variegation make it most interesting. In trying to grow it successfully one must prepare a good basis in the first instance and sufficient drainage, as it objects to stagnation. After this is done some good loam, leaf mould, and silver sand cannot be improved upon as a compost.

ALLAMANDA WILLIAMSII.

This useful Allamanda was sent out with a great flourish, and I am not quite sure that the introducers were not fully justified. It does not meet with the greatest number of points from the judges at our exhibitions, but it holds a firm place in establishments where the larger-growing kinds cannot have the attention or accommodation essential to the greatest excellence. Also in decoration are its many qualities noticeable, shoots containing a large number of flowers being suitable and lasting for many purposes where larger-flowered sorts could not well be employed. For these reasons this Allamanda will always meet with a great share of support.

A PRETTY BORDER.

One is rather shy at singing one's own praises, but a border which seems to have defied the great drought through which we have just passed, has not only pleased myself, but many others who have seen it, as it has proved useful as well as ornamental. The background is composed of Rhododendrons and Hollies, and the space of soil sloping down to the walk is sufficient to hold some half dozen rows of plants. Next to the lawn the front row starts with *Tropaeolum Lobbianum* Firefly, pegged down; the second row is composed of *Matricaria eximia*, clear primrose colour, and with a great future before it when better known; seedling *Pentstemons* form the third row and take away all stiffness; the fourth row being varieties of *Pompon Dahlias*, the two remaining rows being of Cactus and double Dahlias.

ROSA WICHURIANA.

It was a positive pleasure to me to read the excellent description of this fascinating Japanese Rose by "C." on page 186, in your last issue. Small in leaf, your correspondent hits the right nail when he says it must not lack moisture, or all its beauty is too fleeting. I have not seen it used in the way mentioned, having only made its acquaintance when at the Royal Nurseries, Newtownards, last season. There I saw it in the early September days a perfect picture of loveliness, the sheet of white flowers telling extremely well against the shiny dark green foliage. But these were budded on half-standards and standards, the long weeping shoots almost touching the ground, and being just the one thing needful if used as isolated specimens.—R. P. R.



PLANTS IN POTS.

(Concluded from page 186.)

As soon as the buds appear well above the foliage the plants should be trained into a somewhat flattened bush-like form, which enables the grower to make a better display of his flowers, besides encouraging a more even habit of growth, taking care to distribute the flower buds regularly all over the plants. For this purpose neat sticks, such as small osiers used in the making of baskets, are suitable, choosing those that have been cut and laid by for some time, these being the most durable, and there is no fear of their taking root and growing in the pots. Place some of these sticks in a slanting position resting on the rim of the pot, and bring the lower and more forward shoots down to the sticks, securing them neatly (the foliage from these when fully developed will completely cover the rim of the pot), carefully cutting away all the ties made when the plants were first pruned. Secure each of the growing shoots to the sticks, placing them equally over the plant until the desired shape is attained.

This training requires both judgment, taste, and neatness; it also regulates or balances the sap throughout the whole plant, and the result is a number of blooms opening at the same time, which should be every exhibitor's aim, and which result could not be obtained were the plants allowed to take their course; the stronger shoots would outgrow and rob the weaker, and consequently bloom first.

From the time the buds first appear liquid manure may be given freely, for when well established the Rose is able to absorb strong stimulants. Cow manure steeped in water in which a little soot is mixed is as good as anything. I have relied more on cow dung and soot this season than on any other manure. I have also successfully used a mixture of cow, horse, and sheep manure, a basketful of each to about a peck of soot, and a 6-inch potful of guano, the whole being put in a large tub and well stirred; when settled it is fit for use. If thought too strong dilute with water. My plants have always thriven well, and carried rich foliage and well-formed flowers. I do not advocate a large quantity of guano; it will, in my opinion, produce foliage to the detriment of ripe wood and less blooms the following season.

When the plants have done blooming and the weather has become warmer, say by the middle of May, plunge them out of doors in a bed of coal ashes or cocoa-nut fibre refuse, cut off all dead flowers, and give copious supplies of liquid manure, or a mulching of decayed manure around them will answer the same purpose, for the watering and rains will wash the virtues in. It is on the summer growth that success mainly depends, and attention must therefore be given to produce it. Watering and frequent dampings over the foliage after a hot day will help to keep the plants fresh and healthy.

Most of the plants if they have made good growths will require a shift. This operation is best done from June to September—the earlier the better, as it gives a longer time for fresh roots to be made, and the more a plant has filled its pot with roots the better will it be able to stand forcing and stimulants. If it is required to have flowers earlier in the season it will be necessary to prune the plants sooner than already stated, also to introduce them into a genial temperature of 45° or 50°, and if convenient a slight bottom heat of 10° more will materially assist. As the plants gain strength, if thought desirable they may be subjected to a temperature of 60°; but hard forcing should be avoided at all times, for it will be found detrimental to good blooms.

There are other enemies to the Rose besides the Rose maggot, green fly, and mildew spoken of. The black mildew sometimes makes its appearance and sadly disfigures the foliage, causing some which is badly affected to drop off. For this I know no remedy; but as for the orange fungus more air and less moisture will, I think, prevent its spreading.

At the commencement of these notes I suggested that the quickest method of procuring a collection is to purchase established plants in pots; but plants obtained as follows, although not fit for early blooming the first year, still may carry a fair supply of blooms and become thoroughly established the following year. The first step is to take up from the garden some dwarf Roses and put them into 6 or 8-inch pots, taking care to well drain them. Plunge the pots to the rim in a partly spent hotbed, and keep them close for a few days, giving one good soaking of clear water, and dew them over with a syringe on fine days, and in the course of a fortnight they can have air and be treated as for the established plants, only these require to be pruned hard back, and take longer in making good plants.—ROSARIAN.



RECENT WEATHER IN LONDON.—There were several very heavy showers in the metropolis on Saturday last, but the moisture did not penetrate far into the ground. Since that day we have had an almost complete reversion to tropical heat, Monday especially being intensely hot. On Tuesday 89° in the shade were registered. Wednesday opened dull; at midday a thunderstorm with torrential rain passed over the City.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Westminster, on Tuesday, September 12th, at 1 to 5 P.M. A lecture on "Lessons from the Great Drought of 1893" will be given by Mr. E. Mawley.

AN HISTORIC DEMESNE.—Captain Penton's selling Chalfont Park, one of the most charming demesnes in Buckinghamshire, recalls the fact that it was here that the first Lombardy Poplar ever imported into England was planted. The "great Ash," supposed to be the largest and oldest Ash tree in the kingdom, has so long formed a conspicuous object in the landscape that its position is marked on the oldest maps extant.

APPOINTMENTS.—Mr. F. Dunn, bailiff and gardener for the late Sir Francis and Lady Truscott at Oakleigh, East Grinstead, Sussex, has been appointed sub-agent on the estate of the Hon. Dudley H. Ryder at Westerbrook Hay, Hemel Hempstead. Mr. J. Whytock, gardener to Earl Fitzwilliam, Coollattin Park, Shillelagh, has been selected out of a very large number of candidates to fill the vacancy caused by the death of the late Mr. Dunn, as superintendent of Dalkeith Gardens. Mr. F. Edwards, for the last three and a half years foreman at Bushey House, has been appointed head gardener to A. Thompson, Esq., Mymwood House, Hatfield.

NORTHERN PEAS.—Noticing during the past few weeks in our Journal many complaints of poor crops of Peas I thought readers would like to know how we have fared in Northumberland. I am happy to say I am not troubled with stunted, tasteless Peas. I grow Duke of Albany, and they are admired by everyone. The plants are over 6 feet in height, and covered with beautifully filled pods, eight and nine peas in each pod. In preparing ground for Peas I commence to trench as soon as the ground is moist enough; I am a firm believer in winter digging and trenching. I manure heavily, and give plenty of water when the Peas are growing, and I have always had good results.—GEO. ANTON, *Stobhill, Morpeth.*

SWANLEY SHOW.—The exhibition of flowers, fruits, and vegetables, held recently in the grounds of Kettlewell Convalescent Home, under the auspices of the Swanley Junction Horticultural Society, was a great success. Each section was well represented, and notwithstanding the drought through which the growers have passed, some highly creditable produce was staged. Not only were competitive exhibits numerous, but market growers and nurserymen also came forward with valuable assistance. As may be expected, Messrs. H. Cannell & Sons were worthily represented. The arrangements reflect great credit on the Honorary Secretary, Mr. C. E. Wilkins, well known to horticulturists as an enthusiastic amateur Rose and Chrysanthemum grower.

MR. ELLISON'S GARDEN.—A correspondent, who has himself charge of no mean garden, writes:—"I have just returned home after spending a most pleasant, interesting, and agreeable time with the Rev. C. C. Ellison at Bracebridge. He is a great gardener, and loves his garden with all the fervour of a devotee, and derives from it a great amount of real pleasure. His Rose and pond gardens are highly attractive, and his fruit trees most interesting. The way in which his garden is arranged is perfectly original, and to a stranger is as great a maze in its way as the one at Hampton Court. His workshops and lathes are a marvel, and the work he has turned out truly beautiful. We were in the garden till after midnight discussing the pros and cons by the light of the moon." [We should very much like a report of that discussion between the great professional and his accomplished host, but fear we shall not get it; it could not fail to be entertaining and instructive.]

DOVER FLOWER SHOW.—On Wednesday, August 30th, the above Show was held in the Town Hall, when a most interesting display was brought together. The Committee offers generous prizes in the 100 classes, some of which are open, while others are subject to the customary limitations. The groups of plants and specimen plants were excellent and formed perhaps the finest feature, though vegetables were magnificently staged. The arrangements were skilfully carried out, and were a credit to Mr. E. M. Worfold, Market Square, Dover, the Honorary Secretary, who is indefatigable in his efforts to insure success.

BRISTOL GARDENERS' ASSOCIATION.—The monthly meeting of members was held on August 31st, at St. John's Parish Room, Redland. Mr. C. Look presided over a good attendance. A very interesting and instructive lecture on Viola and Pansy culture was given by Mr. Isaac House of Coombe Nurseries, Westbury-on-Trym. He dealt with the subject in a lucid manner, giving the history of the plants, and explaining the marked difference between the two. He strongly urged their cultivation, especially for bedding purposes, claiming for them freedom of blooming during a long season. Mr. House gave a list of good Violas, and detailed what he considered the best method of culture. A discussion followed, and the lecturer was heartily thanked for his attendance. The Society's certificate of merit was awarded Mr. McCulloch for a well-grown *Valloia purpurea*.

THE R.H.S. FRUIT COMMITTEE.—At the recent Drill Hall meeting of this body a resolution, expressing the Committee's great sorrow on learning of the death of Mr. T. F. Rivers, so long a Vice-Chairman of the Committee, an acknowledgement of the grave loss to horticulture which his death had caused, and expressing sincere sympathy with the deceased's relatives, was proposed by Mr. G. Bunyard, and unanimously agreed to. Mr. Bunyard also brought forward a similar resolution in relation to the late M. Henry de Vilmorin, but it was urged that any expression of sympathy and condolence sent to his friends, and of sorrow for his untimely death, should emanate from the Council and Fellows, rather than from a Committee; and it was therefore agreed to invite the Council to take such public course at the next meeting of the Society. We believe that the Floral Committee adopted a similar course.

A DUBLIN NOTE.—The palatial quarters of "The Royal Dublin Society" had, amongst the many diversified stands that make up what is generically called the Horse Show, a horticultural exhibit, which shadowed forth an almost unbounded potentiality of the Dominion of Canada. It comprised fruits (which were preserved) including Peaches, Plums, Grapes, Cherries, Apples, and Currants, whilst the Pears were exceptionable. If one could accept the fact, they are the result of ordinary care, a prosperous horticulture harvest is to be reaped. Cereals, and the native inhabitants of the prairies, the Grasses, looked well, flanking the walls and sides, also timber comprehending all the well-known varieties, both in the rough, as well as in the finished condition. At our recent autumn show in Merrion Square, Dublin, Messrs. Clibran & Son, Altrincham, exhibited a few pots of Lily of the Valley, retarded, and were very much admired, their condition being the best; the plants were well dowered with blooms.—A. O'NEILL.

POTATOES AT CHISWICK.—A meeting of the Fruit and Vegetable Committee was held here on August 31st to examine late Potatoes. Present: Messrs. T. Crowley (Chairman), A. F. Barron, W. Bates, W. Gleeson, J. Willard, and A. Dean. Numerous varieties were lifted. Some of the latest showed the tubers of moderate size, but much sprouted. In two or three cases the roots were masses of stolons, but some gave in crops capital results. Sutton's Satisfaction, one of the old varieties, was excellent; Up-to-Date much grown out, Challenge a grand clean crop, Devonian excellent. Seven varieties were regarded so favourably when lifted that they were sent to be cooked, and later the Committee tasted them, and awarded three marks to The Sirdar (Hurst), round white, great crop, rather tall tops, capital table quality; and Ellington's Seedling, tubers longish round, white with pink eyes, great cropper. The tubers are both handsome and distinct, excellent when cooked. Other good ones, but not satisfying the Committee as to table excellence, were Ridgewell's Invincible, white round, an immense cropper; St. Lawrence, flattish or pebble-shaped kidney; Queen of July, white kidney, great crop; and Laxton's No. 3, a Lapstone-like kidney. It would seem as if Potato nomenclature was getting restricted, as there were seen two Sirdars, three Main Crops, and one or two others had old names given. Chancellor was there as Great Chancellor, International as Jersey Fluke, and four red seedlings were merely repetitions of the American Adirondack. Though little evidence of disease was seen, with one variety the only root lifted gave every tuber diseased.

— **RUDBECKIA PURPUREA.**—It is with pleasure that I reply to "R. P. R.'s" request in the Journal of 30th August. From what I saw of your correspondent's treatment of plants, when I had the privilege of visiting the gardens under his charge some years ago, I am of opinion that the cause of his disappointment is not impr per cultivation, but arises from growing an inferior variety. *Rudbeckia purpurea* varies considerably in length and breadth of petals, and in brightness of colouring. I have in view several gardens in which plants procured at different times or from other sources show a marked difference in quality. Probably raising from seed is the cause of the variation, and it is unfortunate that some nurserymen do not bloom their seedlings before sending them out, or do not propagate from the best forms only. This *Rudbeckia* well deserves all that "R. P. R." says in its favour. As an autumn flower its merits are so great that I may be pardoned for the length of this reply.—S. ARNOTT.

— **DUMFRIESSHIRE AND GALLOWAY SHOW.**—This Society held its first show, since its resuscitation, in the Drill Hall, Dumfries, on August 30th. Some unfortunate and confusing changes in the date of the Show at the last moment militated greatly against its success. The outstanding feature of the Show was the cut flowers, which were of high quality. Among the best were the Cactus Dahlias, Asters, Sweet Peas, and Gladioli. Table plants and fruits were limited in numbers, but vegetables made a good show for the season, and were as a rule of high excellence. The leading prizetakers in the open class were Messrs. Kerr Bros. and T. Kennedy & Co., Dumfries; G. Mair and J. Carnegie, Prestwick; and W. Caldon, Summerville, Dumfries, the latter also securing, without competition the championship cup for table of horticultural produce. In the gardeners' class, Mr. J. Day, Galloway House; Mr. A. Murray, Munches; Mr. J. Allan, Arundel; Mr. W. Scott, Broomrigg; Mr. W. Scott, Drumpark; Mr. J. Houston, Conhewth, and Mr. W. Caldon were among the most successful. Mr. J. Thomson, Sanquhar; Mr. J. McLeod, Newbridge, and Messrs. T. & J. Tweedie, Mouswald, gained a number of prizes. Mr. G. W. Kerr made an efficient Secretary.

— **ISLE OF WIGHT.**—On Wednesday and Thursday last the Cowses Horticultural Improvement Society held its first exhibition of fruit, flowers, vegetables, and plants in the Foresters' Hall. The exhibition was opened on the first day by Mrs. Godfrey Baring, and on the second day by Mr. Godfrey Baring, J.P., C.C., D.L., Chairman of the I.W. County Council. Mr. Baring, who is an ardent lover of horticulture, spoke of the benefits to be derived by engaging in the cultivation of garden produce, to encourage which he offered three silver cups to be competed for next year, one to be given to cottagers, one to amateurs, and one to professional gardeners. The first show augurs well for future success, over 200 exhibits being staged, and these of a high standard of excellence. The principal exhibitors were in the gardeners' classes Messrs. A. Saunders, gardener to Lady Harrington; J. Hygate, gardener to S. P. Mumford, Esq.; S. Banks, gardener to Lady Atherley; and F. Herbert, gardener to Major Marsham. The nurserymen's classes were represented by Messrs. Keynes, Williams, & Co., W. A. Kent, R. Saunders, A. Hills, H. Webber, and C. Orchard. In the amateur classes Messrs. E. C. Rashley, J. Love, C. E. Creighton, A. Hobbs, F. Shirley, P. Guy, W. Tutton, W. H. West, and F. Greenham were the leading exhibitors. The Isle of Wight Horticultural Improvement Association certificates were won by Messrs. Niblett, Rashley and Orchard. Medals were won by Messrs. Hygate and Saunders for their respective exhibits. On Thursday last a number of members of the Isle of Wight Horticultural Improvement Association visited Cadland Park, Southampton, by the kind permission of A. Drummond, Esq. Those who availed themselves of this, the last excursion of the season, were delighted with the large and well kept horticultural establishment, the condition of which reflects great credit on the able and genial gardener, Mr. Geo. Garner. On Saturday last the Isle of Wight Horticultural Improvement Association held its monthly meeting at Newport. The chair was taken by Dr. J. Groves, B.A., J.P. Mr. Fred Pearson prepared an excellent paper on "Moths and Butterflies," and showed a large number of both useful and injurious kinds. The Chairman read the paper, after which he proposed a vote of thanks to Mr. Pearson for his admirable paper and for the specimens. This was carried with acclamation. The exhibits staged consisted of a fine dish of Victoria Plums from Mr. J. Newham, of Wroxall, a dish of Duchess of Oldenburg Apples, and a dish of Veitch's Golden Jubilee Tomato, staged by Mr. A. J. Cole, gardener to G. W. Rendel, Esq., Broadlands, Sandown. These latter exhibits were considered by the Judges (Messrs. Richards and Hygate) worthy of the Association certificate for cultural merit. The business portion consisted of the election of several new members and the arrangements for the fruit exhibition which will be held at Ryde the first week in October.

— **DEATH OF MR. A. JOHNSON.**—We regret to have to announce the death, on the 2nd inst., of Mr. Alfred Johnson, the head of the firm of W. W. Johnson & Son, Limited, Boston. The deceased had suffered for some years.

— **THE DARTMOUTH CRAB.**—This beautiful Crab I have noted in one or two places during the week, and though in no case have I seen such heavy crops of fruits as last season, those produced are of magnificent colour. Why so many shrubberies should be given over to Laurels and other common shrubs, when such beautiful plants as this would thrive as well, is difficult to understand; and this, of course, is only one out of the many lovely plants that are available.—C. H. B.

— **PENNY POST TO THE CAPE.**—It is officially announced that the postage to be prepaid on letters from this country for the Cape of Good Hope is now 1d. per $\frac{1}{2}$ oz., instead of 2 $\frac{1}{2}$ d. as at present. The postage on letters for the Australian Colonies, New Zealand, and Rhodesia will continue to be 2 $\frac{1}{2}$ d. per $\frac{1}{2}$ oz. These are now the only British possessions of importance which have not adopted the penny postage scheme.

— **AUGUST WEATHER AT DOWLAIS.**—Rainfall, 2.25 inches, which fell on seven days; greatest fall, 0.65 on the 29th; for the same period, 1898, 4.82 inches. Temperatures: mean maximum, 71.709°; highest reading in the shade, 83° on the 15th; mean minimum, 49.709°; lowest reading, 42° on the 10th. The wind was in the N. and N.E. for sixteen days, and in the S.W. the last eight days of the month. There was only one sunless day, the 29th. A very hot dry month until the last five days, when the long-continued drought broke up. Total rainfall for the last three months, 4.78 inches, against 8.35 inches for the same period 1898.—WM. MABBOTT.

— **SUSSEX WEATHER.**—The total rainfall at Stonehurst, Ardingly, for the past month was 0.72 inch, being 1.58 inch below the average. The heaviest fall was 0.30 inch on 31st. Rain fell on seven days. From the 23rd July, when we had a heavy thunderstorm, to the 27th August, there has virtually been thirty-four consecutive dry days, the total during that time being 0.08 inch, which fell on the 5th and 6th August. During the last week there were frequent showers and a considerable reduction of temperature. The maximum temperature was 91° on the 26th, the minimum 48° on the 29th. Mean maximum 79°, mean minimum 55.25°; mean temperature 67.12°, which is 5.61° above the average.—R. L.

— **AUGUST WEATHER AT BELVOIR CASTLE.**—The wind was in a northerly direction seventeen days. The total rainfall was 0.69 inch, which fell on eight days, and is 1.77 inch below the average for the month. The greatest daily fall was 0.35 inch on the 15th. Barometer (corrected and reduced): highest reading 30.423 inches on the 1st at 9 A.M.; lowest 29.669 inches on the 31st at 9 P.M. Thermometers: highest in the shade, 87° on the 25th, lowest 40° on the 11th. Mean of daily maxima 78.19°, mean of daily minima 52.64°. Mean temperature of the month 62.91°; lowest on the grass 38° on the 11th, highest in the sun 138° on the 2nd. Mean temperature of the earth at 3 feet 62.19°. Total sunshine 236 hours 55 minutes; there were no sunless days in August, and the total amount was 98 hours 7 minutes above the average.—W. H. DIVERS.

— **METEOROLOGICAL OBSERVATIONS AT CHISWICK.**—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil.			Lowest Temperature on Grass.
		At 9 A.M.		Day. Night			At 9 A.M.			
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
1899.										
August and September.										
Sunday .. 27	S. S. E.	deg. 69.6	deg. 65.4	deg. 80.6	deg. 56.7	ins. —	deg. 68.3	deg. 65.4	deg. 62.1	deg. 48.6
Monday .. 28	W. S. W.	68.5	64.6	71.8	58.7	0.04	68.6	65.7	62.1	60.7
Tuesday .. 29	W. S. W.	64.0	59.9	68.8	47.5	0.19	65.1	65.3	62.2	39.6
Wednesday 30	W.	64.7	59.2	72.9	58.9	—	64.7	64.5	62.3	53.6
Thursday 31	S. W.	63.9	58.8	68.8	50.5	0.29	64.1	64.3	62.2	40.0
Friday .. 1	S. W.	62.7	56.6	71.9	54.6	0.06	62.5	63.8	62.1	49.2
Saturday .. 2	W.	63.7	57.9	69.7	55.0	0.06	63.5	63.5	61.0	49.9
MEANS ..		65.3	60.3	71.8	54.6	Total 0.46	65.3	64.6	62.1	47.3

The weather has been much cooler; small quantities of rain fell on five days. The wind has been cool, and mostly from the west.

FRUIT BORDERS.

THE making of new fruit borders either under glass or in the open is a very important work, and will be claiming the attention of many gardeners just now. Perhaps the most frequent of all mistakes is having the borders too rich and loose, both for Vines and Peaches, or, indeed, any other fruit. When the fruit borders here were made all the soil was well firmed with rammers about 4 inches across, the surest way of getting it evenly firm. When putting borders together it is most important that the materials are thoroughly incorporated and of a medium condition as regards moisture. A dry heap of compost cannot possibly be made firm, for as soon as one part is rammed it pushes up at other places, while if too wet it settles down into a close inert mass like a brick, and shrinks from the sides of the walls. Of the two it is better for the material to be on the dry side, and even if a little sprinkling is necessary it should be done. For this reason it is always best to allow the soil to remain in sharp ridges until the place is ready, or if it can be kept under cover so much the better.

As an addition to fruit borders the lime rubble left from building operations is very useful, stone fruit especially being greatly assisted thereby. For Vines, too, it is useful, and so, of course, is newly slaked lime, but the former is more useful in a mechanical sense than the latter, keeping the soil sweet and open, and encouraging free root action. Lime itself as an organic substance is more cheaply and easily supplied by the slaked material, but in some soils it has a tendency to fine down the staple and make it impervious to air and moisture. The rubble is a splendid addition to the soil for Fig borders, and if brick and mortar rubble is not obtainable it is well to break up some sandstone, or whatever happens to be at hand, for it is very necessary that the Fig roots start in rather a poor but well drained and aerated medium.

Plums and Cherries, again, need a soil more than usually firm if the best results are to be obtained, the former especially running away to fruitlessness in a very short time if planted at first in a loose rich border. Drainage in all cases is necessary, but the usual mixture of bricks, flints, or what not, should be more carefully looked over for pieces of rotten wood, and anything else likely to set up attacks of fungus at the roots.—H. R. RICHARDS, *Coldham Hall*.

BIZARRE NOTES. (SHREWSBURY).

WHATEVER may be the opinions of persons, who are entitled to all respect, as to the association of amusements of a general nature with flower shows, at least the magnificent exhibition held at Shrewsbury proves how wonderfully attractive the two can be in combination. Nowhere in the kingdom are there associated such a really grand display of all descriptions of horticultural products, with the most beautiful music, and amusements of the most varied and interesting character, as there, and the result is that the masses, the tens of thousands of visitors, literally worship the horticultural produce, and crowd the tents on each day, and all day long. One has only to mix with the crowds in the tents and hear their criticisms to understand how intensely they are interested in the exhibit.

The same unfortunate heat trial which has affected flower shows everywhere this season proved to have been very trying at Shrewsbury. It is a pity flower show committees do not jointly put pressure on tent owners to provide them with properly formed means of ventilation, as when crowded with people on a hot day the temperature becomes unendurable. No better arrangement for this purpose would be found than long flap openings in the roof on the non-sunny side, and freely looping down the sides to enable air to circulate. One bad result of this excessive heat, apart from the great discomfort it brings to visitors, is the disastrous effect it has on cut flowers, which soon collapse. That condition of things has been common everywhere this season because of overheated tents.

After the Shrewsbury experience he must be a bold man who will again, as was done not so long since, deprecate the association of small plants and foliage with Grapes at exhibitions. The product of the great Grape class was in this respect, apart from the splendid nature of the Grapes, an eye-opener and a surprise to everyone. So much so, in fact, that I think the decorative points in future should be raised from six to ten. If the new plan could only lead to the abolition of long lines, so monotonous in appearance, of Grapes on boards, and, indeed, of fruit of any description, the use of flowers and foliage for decorative purposes being made compulsory with all classes, what

a gain would result! There is nothing so much needed to render flower shows more attractive than the introduction of higher decorative effects in staging. We see its beauty in the dessert tables, and now in the great Grape class. I hope the Shrewsbury Committee will extend that feature next year.

The Scotsmen are naturally proud that the two first prizes in the Grape class went to Scotland. The Land o' Cakes has always been celebrated for its Grapes, and it would seem as if its cooler and moister climate helped to that end. But if the class be continued, as of course it must be, it is hoped that southern growers will have a hard try next year. Still, to win such a prize young Vines, or fairly young ones, are essential. The southern grower who can yet excel Mr. Lunt's grand bunches will be, for the time at least, a horticultural hero. But it is interesting to know that Mr. Lunt is of English parentage, and that a little tones the triumph of the Scotsmen. Like Captain Corcoran, of H.M.S. Pinafore, we may sing of him, that "In spite of all temptations to belong to other nations, he remains an Englishman."

Looking through one large tent almost filled with beautiful Sweet Peas and meeting that venerable greybeard Mr. Eckford, who has done more than any living man to make the Sweet Pea what it is, I could but offer him hearty congratulations and proclaim him to be the flower hero. It was exceedingly interesting to note how diversely were these lovely flowers arranged. The somewhat abused *Gypsophila* was in great use, and nothing could be more pleasing. Those who favour cutting Sweet Pea stems low down to include buds and tops, would have been cured of that notion had they seen some so displayed. The large stems could not take up the needful water to keep them firm. The eighteen bunches set up by Mr. Aldersey of Shrewsbury in glasses of varying height, *Gypsophila* being moderately used and rather low down to keep the Pea stems in place, were exquisite. Besides presenting an object lesson in staging, they were of the finest varieties Mr. Eckford has sent out.

I am tempted to ask whether the plant group arrangers have come to the end of their tether. Certainly they have at Shrewsbury ample encouragement and scope, but the designs and arrangements seem to be reproduced. Mr. Blair's beautiful arrangement was bolder and less complicated than Mr. Cypher's, and the general effect was at once more striking and pleasing. With all due deference to these eminent groupers, I should like to see all cork combinations, whether as arches or otherwise, abolished. The style of thing thus presented is too "cockneyfied." We have such glorious plants of every description that aid of that sort rather offends than pleases. Possibly to secure new or more varied, and thus more attractive, arrangements, it may be needful to prescribe new conditions. The best dressed pond of a given area, with beautiful aquatics and semi-aquatics, for instance, would arouse great interest.

Vegetables were very fine for the season, indeed quite surpassed in both quantity and quality my expectations. But it will not do to assume that therefore that they were up to high-water mark. It was impossible that with such weather they could be. Very probably some of our requirements seem high, but the standard of merit must be upheld, let the season be what it may. Out of the large total of 170 dishes that were pointed in four classes, only sixteen had the maximum of points awarded. Many ranged one point, one and a half, and even two points below; but then these figures were chiefly found in the collections low down. Could the same judges take the same classes on the same basis of points another year, using prepared cards for the purpose, it would be exceedingly interesting to note how the quality stood then as compared with that of such a difficult year as the present. We may well hope that the end of the dry cycle of years has been reached, and that summers of a more desirable nature may be in store for us.

I conclude these bizarre notes on the great Show with a reference to the management. I notice that two of your contemporaries have been giving portraits of the esteemed and singularly able Secretaries. But whilst the pictures of Mr. Naunton are very happy, those of Mr. Adnitt, whilst giving the features correctly, seem to fail in giving the very pleasant, happy expression, which seems always to animate his countenance. Now I do not know whether in both cases expression is entirely indicative of character, but I think it must be, for whilst Shrewsbury is without doubt the biggest show of its kind in the kingdom, nowhere does management run more smoothly, everything being devoid of hurry, worry, or scurry, than there. I could wish some of the officials of small shows I occasionally meet with could see how the Shrewsbury Secretaries conduct their business. It would be a valuable object lesson.—A. D.

SALOPIAN NOTES.

PREFATORY.

If they could be well outlined, there are many side lights connected with the great horticultural show of the Shropshire Horticultural Society in that inimitable show place, the Quarry, Shrewsbury, which would be interesting to many a gardener living out in the distant country, whose heart was at Shrewsbury all the week, but who was not able, from pressure of circumstances, to visit the Show himself, but would like to have a vision of it, if only a blurred and an imperfect one. I thought it possible that I might assist in a small way by illuminating, from my point of view, the efforts of the regular writers who did the Show for us, and did it so well (as we read in our Journal this week), and so complete the picture.

A PERSONAL NOTE.

I am happily situated to see the Show. The good wife of the writer is a true Salopian, born, bred, and educated in the parish in which the Quarry stands; baptised, confirmed, and married in the fine and almost unique church of St. Chad, which stands at the head of the Quarry grounds. We come to relatives on a farm not far out of the town (whose garden, by the way, in this droughty season, was fuller

is to see the way they settle down to a good talk—professional, hygienic, meteorological, or domestic. It is also very delightful to be introduced to some writing comrade of our Journal by its genial Editor, who appears to take the liveliest interest, and to have the highest gratification in making his colleagues know one another. It is amusing to think how different we appear to each other in person than the picture we have formed of one another by our writings, and it is deliciously satisfying to find any whom we have considered rather faddy and censorious to be one of the kindest, most genial and reasonable of men. And for a small "spade and wheelbarrow" gardener to rub elbows and exchange greetings with some of the highest gardeners in Great Britain, even with the Queen's gardener, is something for him to remember all his days.

A JUDGING NOTE.

Nowhere in the kingdom, I should say, is the judging by points more generally done, or better done, than it is at Shrewsbury, and nowhere is it more necessary that it should be so done, as, to differentiate the relative qualities of the respective exhibits in any one class would be a human impossibility, with a strict sense of justice and equity, without this safeguard. Take a low one, the classes for collections of vegetables. For the six prizes offered by the Messrs. Sutton



Photo by Mr. H. H. Hughes.

Shrewsbury.

FIG. 42.—THE SHREWSBURY JUDGES.

Back row—P. Blair. A. C. Townsend. A. Dean. N. F. Barnes. G. Pearson. J. Loudon. H. W. Adnitt, Hon. Sec.
 Second row—Rev. W. Serjeantson. W. Beacoll. T. P. Blunt. E. Gilman. A. Outram. W. Crump. J. Ranger. J. Lambert. J. Hudson. W. W. Naunton, Hon. Sec.
 Third row—N. H. Pownall. J. Douglas. J. W. McHattie. J. Wright. O. Thomas. W. Miller. J. Wallis. W. Speed.
 Fourth Row—J. Pirch. F. W. Roderick. R. Milner.

of Roses than my own is, especially of Gloire de Dijon), and stay the Show week each year. I am, therefore, in a position to see the Show in all its stages, from the earliest to the latest. I see the rough and raw preparations, and the order rising out of disorder; the huge vans arriving and unloading, the undressing of plants from their swaddling wraps, and roots and other things out of packages; the inevitable disorder, litter, and untidiness, and the gradual getting of everything into shape; into the order and beauty, and glory of Wednesday morning. I get a chat with the men from all quarters; from gardens and nurseries large and small, and learn how things are going in their respective districts, and many other little things besides. A quiet observer and listener learns much.

A CHATTING NOTE.

That pleasant chat of friend with friend in and around the Secretary's tent at Shrewsbury on the morning of the first day of the Show, of the Judges and other gardeners, is by no means one of the least interesting of the side-lights of the Show. What an enjoyable thing it is to stand by and hear the "Ha! here you are. I am glad to see you!" and to watch the hearty handshake of two gardener friends who perhaps have not met since last year; how gratifying it

there were thirteen collections set up. On examination nine of these were of such apparent average quality that it was necessary that these nine should be pointed, and pointed they were, with the result that from the highest to the lowest of the six prizetakers there was only a question of about eight points. Now by a mere visual inspection and superficial examination, to arrive at the relative merits of these would, as I have said, have been a human impossibility, and mistakes would inevitably have been made. In the highest classes, those of decorated dinner tables and the great Grape class of this year, the points are put down on paper, the number representing the value of each item; these are totalled up, and the point papers put up by the side of the different exhibits so that all may see how the judgment has gone. As excellence in growing and exhibiting grows, this system of judging by points will have to become a positive law in judging, and the R.H.S. manual on judging, with the hints given by our Editor in his pamphlet on horticultural societies and shows, lay down the law with great clearness and equity.

A PHOTOGRAPHIC NOTE.

It was a happy thought of the Hon. Secretaries of the Shropshire Horticultural Society to celebrate the twenty-fifth anniversary of the

Society's Show by having the Judges photographed in a group. It will be an historical souvenir of the Society and the Judges it had gathered together from various parts of the kingdom, as representing the highest development of horticultural skill and judgment. There are names amongst them which will be in the mouths of gardeners for generations to come, and when the *Journal of Horticulture* publishes the group, as no doubt it will, it will be seen by all that they by no means form a mere ordinary class of men, but are worthy representatives of our craft. If there had been a photograph taken of the judges of the first show that would have been singularly interesting, but unspeakably pathetic at this time, from the absence of good men who had gone into the silent land. This idea was in the minds of some present, as one who was a judge twenty years back said to the

fifth position in a competition like this!" The hero of the day, Mr. Thomas Lunt, received the congratulations of everyone with proud, if shy, feelings. He is a comparatively young man, well set up, of quiet manners, with a face, as his portrait shows, full of steadiness and firmness, dominated by a Roman nose indicative of mental and moral power. The Society has made itself a great name amongst gardeners generally, but specially so amongst Grape-growers.

A LUNCHEON NOTE.

At the close of the luncheon an incident occurred which, so far as I know, is as yet unrecorded. A group of gardeners were at the end of the table where our genial Editor sat, and after the solids had been done justice to, first one and then another spoke to him on what

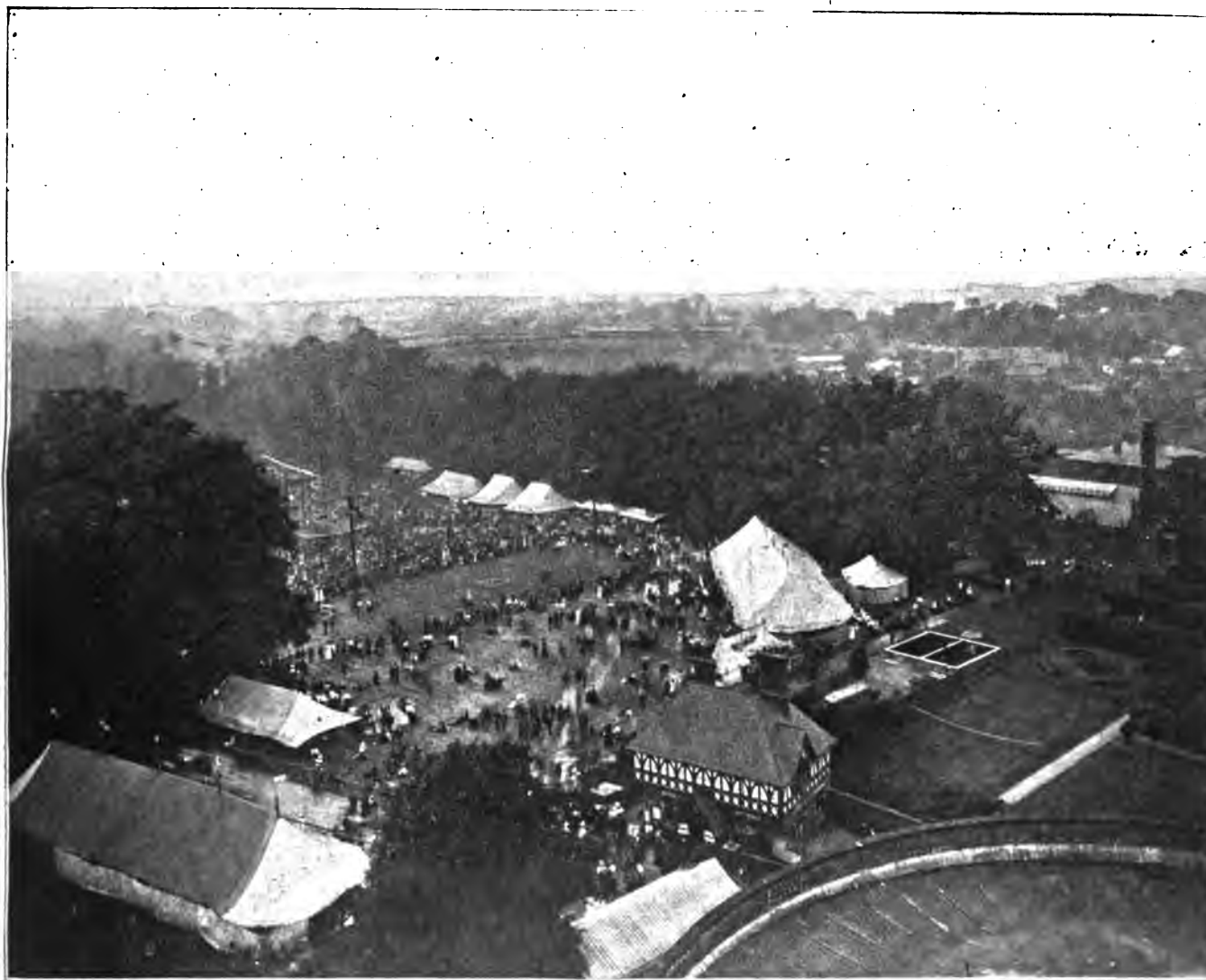


Photo by Mr. W. W. Naunton.

The Square, Shrewsbury.

FIG. 43.—THE QUARRY, SHREWSBURY ON FÊTE DAY.

writer, "I have been looking round, and I believe I am the only one of the judges present twenty years ago!" No doubt that thought would be rather saddening, as he remembered colleagues with whom he had acted, but who were now no more on earth.

A GRAPE NOTE.

To describe adequately the great Grape exhibit at this show—a record exhibit—will require the pen of a readier writer than myself. I can only say that I never saw a finer or better set up lot of Grapes (fig. 41), and the scene around the tables, of gardeners of every degree, intensely awaiting the decision of the Judges, was one to be perpetually remembered. It had occupied the three Judges, Messrs. Thomas, Crump, and MacHattie, two full hours to arrive at their decision, but when the decisions were given there was jubilation, triumph, and satisfaction all round. The Rev. President, himself a thorough gardener, exclaimed, "Well, I am perfectly satisfied at the

appeared to be a very interesting subject. At last Mr. Barnes of Ealton said, "Now, Mr. Wright, you're just the man to do it, and it would come better from you than anybody else. We only want one speech—short and to the point." Accordingly our Editor rose, and said in a few forceful words it was the urgent desire of the friends around him, and he was sure of the entire company, that the untiring exertions of the Honorary Secretaries should not go unrecognised, and the honour and pleasure had been imposed on him of conveying to them, and the officers of the Society, the congratulations of the Judges on the magnificent success of the glorious Exhibition. Mr. Adnitt very gracefully acknowledged the compliment. Then there were calls for his co-Secretary, Mr. Naunton, but he with that somewhat shy and retiring manner, which so marks him, smilingly shook his head, which conveyed somehow the idea that he was a worker, but no speaker, and this was accepted as a well known fact. I have a visiting note for another week.—N. H. P.

THREE PHOTOGRAPHS FROM THE QUARRY.

[THOUGH the entire horticultural world was supposed to be at Shrewsbury a fortnight ago we may take it for granted that many readers of the *Journal of Horticulture* were there in spirit only, and will therefore welcome one or two photographic illustrations. On page 213 we are enabled to give a bird's eye view of the Quarry on a fête day. This was, with spontaneous kindness, taken for the *Journal* by Mr. W. W. Naunton, one of the Honorary Secretaries, whose post of vantage was the church steeple. The view was secured on Thursday afternoon, and conveys some idea of the appearance of the Quarry on that day. Neither the whole of the ground, tents, nor people can be seen, as will readily be understood when it is said that the sum of £1852 was taken at the gates on that day, which at 1s. apiece represents upwards of 37,000 people, not to speak of the ticket holders. While we are amidst figures we may say that the takings for the year are:—Subscriptions, £420; refreshment contracts, £620; sale of tickets before the fête, £521; taken at the gate on the first day, £879; second day, £1852; sundry receipts, £380, making a grand total approaching to £4700. Can this be termed anything but marvellous? Then the kindness of Mr. H. H. Hughes, a member of the Society's Committee, permits us to furnish a picture of the Judges in a group. It was taken under the disadvantage of slight movement of the branches of the tree in the shade of which they assembled. Mr. Adnitt, who could not attend at the moment, was taken separately and added to the group, which would not have been complete without him. There are twenty-eight of them, including the co-Secretaries, and the names given beneath the illustration render further explanatory matter superfluous, for they are not men of obscurity. Our indebtedness to Mr. Naunton extends still further, for the excellent photograph of Mr. Lunt's superb collection of Grapes (page 207). This has already been described, and will probably be again referred to in these pages. We tender hearty congratulations to the Society on the success achieved and for the admirable educational work that is being carried out so well.]

SHOWS.

BATH.—AUGUST 30TH AND 31ST.

THIS, the last of the more important fixtures in the West of England, is also one of the most popular among all classes of exhibitors and visitors. There was a grand display of specimen stove and greenhouse plants, Fuchsias, Ferns, and the like, a better display of cut flowers than seen at the other leading shows hereabouts this season, and an excellent all-round exhibit of fruits and vegetables. The show was held in the Sydney Gardens, while the arrangements reflected the greatest credit on the experienced Secretaries, Messrs. B. R. F. Pearson and W. Jeffery, and the Committee.

Fuchsias, as usual, occupied the place of honour on the list, and considering the season, there was a much better display of these than might have been anticipated. For nine varieties, Mr. G. Tucker, Trowbridge, was well first, showing grand pyramids, nearly 9 feet high, of Doel's Favourite, Western Beauty, Tucker's Favourite, Final, Arabella, Mr. H. Roberts, Mrs. Bright, Bountiful, and Charming. Mr. J. H. Willcox was second. The class for six varieties was well filled, Mr. W. A. Burford taking the lead with moderately large, grandly flowered pyramids. Lady Pitman was second, and Mr. W. J. Mould third. Messrs. Tucker and Willcox each took a first prize with a single specimen Fuchsia, the first-named showing a remarkably fine plant of Charming.

Stove and greenhouse plants were numerous, and good as may be imagined when it is seen that Mr. J. Cypher was beaten in the class for six in flower by Mr. G. Tucker. A specimen of *Ixora Duffi* gained Mr. Cypher an equal first for a single stove plant, Mr. Tucker having a good *Dipladenia amabilis*. For a bank of specimen plants to comprise six in flower, Mr. Cypher was easily first, showing grand Kentias and Crotons. Messrs. J. B. Woods & Son were a good second, and Mr. G. Hallett third. With a collection of Orchids Mr. Cypher was well first. The best Cannas were shown by Messrs. G. Cooling & Son; Mr. W. J. Mould was the principal prizewinner with Zonal Pelargoniums. First prizes for Lilliums were taken by Mr. W. Powell; Mr. E. T. D. Foxcroft was most successful with Tuberous Begonias, and Mr. G. Woodiwise showed the finest Gloxinias, the competition being good in nearly every case.

Groups of plants arranged for effect are steadily improving in character at Bath. On this occasion four competed, Mr. J. Cypher taking the first prize for a light arrangement in which elegant Palms, Bamboos, Crotons, and numerous choice Orchids figured to great advantage. Mr. T. Tansey, gardener to R. B. Cater, Esq., Bath, was a creditable second, followed closely by Mr. H. Smith, gardener to H. Eaton Young, Esq.

A large amount of staging was devoted to cut flowers, and yet crowding of stands was unavoidable in places. Mr. F. H. Fox, Wellington, was first, and Mr. J. Mallett second with thirty-six spikes of Gladioli; Mr. G. Humphries, Chippenham, first, and Mr. W. J. Mattock, Oxford, second with twelve spikes, all exhibiting most creditably. Dahlias were also remarkably fresh and good. With these the principal prizewinners were Mr. J. Walker, Thame; Messrs. Keynes, Williams and Co., Salisbury; Messrs. J. Cray & Son, Frome, and Mr. G. Humphries. Messrs. D. & W. Croll, Dundee, sent really fine blooms

of Hybrid Perpetual Roses, and were first for twenty-four singles; second Mr. J. Mattock, Oxford. For twelve varieties Mr. W. J. Mattock was first, and Mr. T. Evry, Bath, second. The best Tea-scented Roses were shown by Mr. G. Prince, Oxford; second, Mr. J. Mattock. Messrs. G. Cooling & Son made a fine display of Zonal Pelargoniums, and were first; second, Mr. W. J. Mould. Asters were numerous, and the prize-winning stands of great merit. Mr. A. A. Walters, Bath, was the most successful with these; Mr. F. Hooper, Bath, and Mr. F. Lindsay, Frome, also taking first prizes. Mr. A. A. Walters was well first, and Messrs. W. J. Stokes & Son, Trowbridge, second for a collection of herbaceous flowers. Mr. Newman, Bath, was first for annuals, and Mr. G. Tucker for stove and greenhouse flowers. Table decorations, bouquets, sprays, vases, bowls of flowers and the like were all numerous and good.

As usual one large tent was wholly devoted to fruit, and this was well filled. Four competed with collections of eight dishes, Mr. W. Strugnell, gardener to Colonel Vivian, Rood Ashton, Trowbridge, gaining the premier award for Alcantara and Muscat of Alexandria Grapes, Taunton Hero Melon, Dagmar Peach, Pineapple Neotarine, Washington Plum, and Brunswick Figs, all of good quality and well displayed. Mr. T. Wilkins, gardener to Lady Theodora Guest, was second, and Mr. A. Cross, gardener to H. O. Wills, Esq., Bath, a good third. The greatest interest was taken in the class for eight bunches of Grapes in four varieties. With these there were four competitors, but Mr. W. Taylor, grower to Alderman Chaffin, Bath, was rather easily first, showing handsome bunches of Madresfield Court, Gros Maroc, Black Hamburg, and Muscat of Alexandria, the last named only wanting in point of ripeness. Mr. W. Marsh was second, his best being Gros Maroc and Madresfield Court; and Mr. T. Jones, also of Bath, third. The Black Hamburg class was weaker than usual. Mr. G. Sutton, gardener to W. A. Todd, Esq., was first, and Mr. D. E. Taylor second. In the any other black class Mr. W. Taylor won the first prize with Madresfield Court, fine in bunch and berry, and only slightly deficient as regards colour; second Mr. W. Marsh, for extra large, handsome, well finished clusters of Gros Maroc. The best Muscat of Alexandria were shown by Mr. T. Wilkinson, Clifton, the second prize going to Mr. Fewtrell, gardener to C. C. Tudway, Esq., Wells, but none of the exhibits in this class was quite first rate. With any other white variety Mr. A. Cross was first and Mr. Sutton second, both showing fairly good Buckland Sweetwater.

Melons, both in the Society's classes and the special classes, in which the prizes were offered by Messrs. Sutton & Sons, Reading, were decidedly inferior; and Mr. T. G. P. Hallett was the only winner of a first prize. Peaches were numerous and good. Mrs. Stothart was first with highly coloured Royal George; second, Mr. Acland, gardener to A. G. Hayman, Esq. Mr. Aitkin was first for Nectarines, and Mr. Acland second. The competition with Plums in two classes, Apples in four classes, Pears in two classes, and Cherries, was keen. Of Figs and Filberts some grand fruit was shown. Among the principal prizewinners were Messrs. Strugnell, G. Garraway, W. Marsh, W. G. Tyler, T. Wilkins, and C. Smith.

Vegetables, as usual, were arranged alongside the railway on open benches, and were both plentiful and of high quality. Mr. T. Wilkins was the most successful exhibitor; Messrs. G. Garraway, Wilkinson, P. Huth, J. Hall, and J. Moore also doing well. Prizes were provided by Messrs. Sutton & Sons, Webb & Sons, and G. Cooling & Son.

Non-competitive exhibits occupied a considerable amount of staging, and added greatly to the attractiveness of the exhibition. Messrs. W. & J. Birkenhead, Sale, Manchester, arranged a large collection of well grown Ferns, principally in small pots. Messrs. G. Cooling & Son made a good display of cut flowers of herbaceous plants, Roses, Carnations, and Dahlias, also a group of admirably fruited Apple trees in pots, together with dishes of all the best varieties of Apples and Pears. From the Devon Chrysanthemum Nursery, Teignmouth, came a large assortment of Cactus Dahlias, among which were included a few seedlings of considerable merit. Mr. G. Prince, Oxford, arranged a group of cut Tea Roses very effectively, and Mr. J. B. Blackmore made a good show of cut tuberous Begonias, as did Mr. A. A. Walters, Bath, with plants in pots. To all of these certificates of merit were awarded.

SANDY.—AUGUST 31ST.

[THE thirty-first annual show was held in the park of Sandy Place, and proved a great success. The offering of £30 as prizes for ten stove and greenhouse plants proved an incentive to exhibitors, not only in the actual classes but throughout the show. After 2 P.M. it was almost impossible to walk round the tents, and note-taking had perforce to cease.

In the class for a group of plants arranged for effect, to occupy a space of 50 feet, Mr. W. Vause, Leamington Spa, was placed first with a group in which foliage plants formed the chief feature, the Crotons being beautifully coloured. The flowering plants employed were Cattleyas, Lilliums, *Ixoras*, and Tuberose. Mr. W. Finch, Coventry, must have been a good second, the arrangement being excellent, and the plants light and well displayed. Mr. W. J. Empson, gardener to Mrs. Wingfield, Amptill, was third with a group in which Orchids and Nerines were the chief features.

The class for ten stove and greenhouse plants in flower made a good exhibition in itself. Mr. Jas. Cypher, Cheltenham, was first with some grand specimens. A fine plant of *Ixora Duffi* was especially notable, as were *Allamanda nobilis*, *Statice intermedia*, *Erica Marnockiana*, and *Bougainvillea glabra*. Mr. W. Vause was second with some well flowered plants, while Mr. W. Finch was third, and Mr. G. Redman, Eynesbury, fourth.

For twelve Zonal Pelargoniums Mr. T. Lookie, gardener to A. J.

Thornhill, Esq., Diddington, was first with twelve fine plants. Mr. G. Redman was second with smaller specimens. In the class for six foliage plants, Mr. W. J. Empson was awarded first place with good plants of *Dracena Sanderiana*, *Heliconia illustris rubricaulis*, *Dracena Houletti* and *Acalypha Masefiana*. Mr. G. Redman followed with smaller plants, his specimens of *Kentia Fosteriana*, *Dracena terminalis*, and *Pandanus Veitchii* were best. For six plants in flower, Mr. G. Claydon, gardener to Mrs. Astell, Woodbury, was first with a well flowered *Eucharis*, also *Allaranda Hendersoni*, and *Dipladenia boliviensis*. Mr. G. Redman was first for six *Coleuses* with bright well grown plants.

Mr. W. J. Empson was to the fore with ten stove and greenhouse Ferns. His best examples were *Adiantum Farleyense*, *A. scutum*, *A. tenerum*, and *A. fragrantissimum*. Mr. G. Claydon was second, showing good plants of *Dicksonia antarctica*, *Adiantum formosum*, and *A. gracillimum*. For six *Fuchsias* Mr. G. Redman was placed first with tall plants that were past their best, and Mr. E. T. Leeds Smith was second with smaller plants, staged in good condition. For six Zonal *Pelargoniums* Mr. G. Claydon was easily first, and Mr. G. Lawson, Clifton, followed. The Ivy-leaved *Pelargoniums* made a good display, and the first prize was awarded to Mr. G. Claydon with well trained plants, and Mr. G. Redman followed with larger plants not in such good condition. For six hardy Ferns Mr. E. T. Leeds Smith was first with well developed plants, closely followed by Mr. G. Redman.

Cockscombs were a great feature, all the exhibitors staging fine plants. Mr. T. Lockie was first with four large plants; Mr. G. Redman followed with blooms of better quality, though smaller, and Mr. W. Cairns, gardener to Sir A. Osborn, Chickenda, was third. Tuberous *Begonias* were not largely exhibited; Viscount Peel was first with well-flowered plants, and Mr. E. T. Leeds Smith was second. For a specimen plant in flower Mr. G. J. Gribble, Biggleswade, was first with a fair specimen of *Bougainvillea glabra*. Mr. G. Redman took second place with a *Stephanotis*, and Mr. G. Claydon was third with *Allamanda Hendersoni*.

The tent for cut flowers was quite full, and the display of Roses was exceedingly fine for the season. In the class for forty-eight blooms, not less than thirty varieties, Messrs. Perkins & Sons, Coventry, led off with a stand particularly rich in dark colours. The best blooms were Horace Vernet, Duke of Wellington, Harrison Weir, Duke of Connaught, Madame J. Cointet, Gustave Piganeau, Duke of Teck, A. K. Williams, and Jean Souperet. Messrs. Harkness & Sons, Bedale, were second, and Messrs. G. & W. H. Burch, Peterborough, third. The Tea Roses were very refreshing. For eighteen trusses, not less than twelve varieties, Messrs. Harkness & Sons were first with a good box. Messrs. Perkins & Sons, Coventry, were second with smaller flowers, and Mr. J. H. Mattock, Oxford, third.

For twenty-four spikes of *Gladioli* Messrs. Harkness & Sons were first; Mr. C. T. Bright, Cambridge, second; and Messrs. A. W. Young and Co., Stevenage, third. There were only two competitors in the class for twenty-four bunches of herbaceous flowers, but Messrs. Harkness and Sons were well ahead. The best were *Phlox Josephine Gerbaut*, *Lilium lancifolium*, and *L. rubrum*, *L. tigrinum*, *Scabiosa caucasica*, *Carnation Miss Audrey Campbell*, and *Montbretia crocosmiflora*. Messrs. A. W. Young & Co. were second.

The Dahlias were decidedly below the average. In the class for twenty-four Show and Fancy varieties Messrs. Harkness & Sons were the only exhibitors, with a moderate stand, which was awarded second prize. For twelve blooms, distinct, Mr. R. Burgin was first with a strong exhibit. The best blooms were Mrs. Gladstone, Goldfinder, Prince of Denmark, Maud Fellowes, and R. T. Rawlings. Messrs. Harkness and Sons were second, and Mr. T. Lockie third. For twelve bunches of Cactus Dahlias Mr. C. J. Bright, Cambridge, was first with a clean exhibit. The chief varieties were *Britannia*, *Starfish*, *Fusilier*, *Castles*, *Mary Service*, and *Regulus*. Mr. John Mattock, Oxford, was second with good bunches not so well displayed. The Pompon classes were not so well patronised; Mr. C. T. Bright was placed first with a fresh even exhibit, Messrs. Harkness & Sons following.

The fruit classes were well filled, and the quality was good. There were three competitors for the collection of eight varieties of fruit, Mr. W. J. Empson winning the blue ribbon handsomely with good *Madresfield Court* and *Muscat of Alexandria* Grapes, *Brunswick Fige*, *Williams' Hon Chretien Pears*, Best of All Melon, *Kirke's Plum*, *Royal George Peaches*, and *Pineapple Nectarines*. Mr. R. Carter, gardener to Capt. Duncombe, Wareley Park, was second with good *Jargonelle Pears*, *Jefferson Plums*, *Noblesse Peaches*, and *Muscat Grapes*. Mr. G. J. Gribble was third. There were again three competitors in the class for six varieties. Mr. R. A. Cochrane, St. Neots, was first with grand Grapes, good Melon, and Peaches. Mr. T. Lockie was second, staging good dishes of *Rivers' Orange Nectarine* and *Jefferson Plum*; and Mr. J. Claydon third. The Committee should insist on exhibitors labelling their fruit; half the dishes in the tent lacked this necessary finish to the exhibits.

Mr. G. J. Gribble was again in front for two bunches *Black Hamburg Grapes*, with rather small but well finished bunches. Mr. J. M. Fowler, gardener to Mrs. Osborne, Biggleswade, must have been a close second, and Mr. Chas. Moore third. The competition for any other variety black Grapes was keen. Mr. T. Stone, gardener to R. A. Cochrane, Esq., St. Neots, was first with *Black Alicante*, Mr. J. Empson following with the same variety, and Mr. C. Forbes third. Mr. W. J. Empson was first for a pair of *Muscat of Alexandria*, with well coloured bunches, and Mr. C. Forbes was second. For any other variety white Grapes, Mr. W. J. Empson was first with superb *Foster's Seedling*. Mr. S. Cranfield, gardener to C. E. Foster, Esq., Cambridge, was second with the same variety, and Mr. W. Cairns third with *Buckland Seedling*.

For six dishes of Apples Mr. G. J. Gribble was placed first with *Lady*

Sudeley, *Devonshire Quarrenden*, *Irish Peach*, and *Lord Grosvenor*. Mr. R. Carter was second with good examples of *Stirling Castle*, *Irish Peach*, and *Kerry Pippin*; and Mr. S. Cranfield third.

The class for a collection of ten varieties of vegetables brought out a strong array of exhibits. Mr. T. Lockie proved the victor with good examples of *Ailsa Craig Onions*, *Lyon Leeks*, *Ideal Potatoes*, and *New Intermediate Carrots*. Mr. W. J. Empson was second with good *Ne Plus Ultra Onions*, *Up-to-Date Potatoes*, *Autumn Giant Cauliflowers*, and *Royal Windsor Cucumbers*; and Mr. W. Emerton, Buckingham, was third. Potatoes are always a great feature here. For a collection of six varieties Mr. T. Clarke, Huntingdon, was first with splendid samples of *Duke of York*, *Lord Tennyson*, *Peerless Rose*, *Conquest*, *Matchless*, and *Lilly Langtry*. Mr. R. Carter followed with a clean collection, and Mr. W. Whybrow, Foxton, third. The Tomato class was well filled. Mr. W. J. Empson led off with a grand dozen of *Polegate*; Mr. R. Brown, Somersham, was second, and Mr. R. Carter third.

NATIONAL DAHLIA.—SEPTEMBER 1ST AND 2ND.

ON Friday and Saturday the National Dahlia Society held its annual Exhibition at the Crystal Palace, the whole of the northern transept being devoted to the flowers. Generally speaking the quality was well up to the average, and when the season is taken into consideration the display was characterised by great excellence. Almost all the classes in each section were keenly contested, and in some cases the competition was particularly keen. For example, in the class for twenty-four Cactus Dahlias in distinct varieties there were nine stands, all of which showed considerable merit; while in many classes there were four and five competitors. Opinions were divided as to which section was the best, but the majority was in favour of the Cactus varieties, which were characterised by being of the very best type; few old varieties were staged. The colours were well developed, and the number of flowers was large. The Show and Fancy flowers in the nurserymen's section were excellent, as were most of the Pompons.

In the amateurs' section the chief features were the Show, Fancy, and Cactus classes, in each of which there were many blooms of splendid quality. It may be noted that in the classes for Pompons and singles many of the varieties were not named at all, and others were wrongly designated. It is regrettable that the Secretary, Mr. J. F. Hudson, was particularly remiss in this respect, as he should be the first to uphold the educational standard of the Exhibition. There did not appear to be a very great number of people entering the Palace on Friday. The arrangements were well carried out, but the judging was not started until quite half an hour after the advertised time. The presence of the late Mr. T. W. Girdlestone was sadly missed at this gathering and we heard many expressions of profound regret that he should have been called to rest.

NURSERYMEN'S CLASSES.

There were four competitors in the class for sixty distinct Show and Fancy Dahlias, and some flowers of great excellence were represented. Mr. John Walker, Thame, Oxon, secured the premier position with an even, well arranged stand. The varieties included *Goldsmith*, *Chieftain*, *Dr. Keynes*, *Mr. Glasscock*, *John Walker*, *Purple Prince*, *Colonist*, *T. W. Girdlestone*, *Majestic*, *Harry Keith*, *John Hickling*, *Joseph Ashby*, *Mrs. Every*, *Imperial*, *Mrs. Langtry*, *Wm. Rawlings*, *Comte de Saux*, *Emin Pasha*, *Harrison Weir*, *S. Mortimer (self)*, *Sydney Humphries*, *Florence Tranter*, *Geo. Rawlings*, *Miss Cannell*, *Duke of Fife*, *Hercules*, *Rev. J. Gooday*, *Mrs. Saunders*, *Jas. Cocker*, *Virginal*, *Rosamond*, *S. Mortimer*, *Rebecca (self)*, *Maud Fellowes*, *J. T. West*, *Wm. Powell*, *T. S. Wase*, *Earl of Ravensworth*, *Diadem*, *Shottesham Hero*, *J. C. Vaughan*, *Victor*, *R. T. Rawlings*, *Jas. Vick*, *Mr. Gladstone*, *John Bennett*, *Mrs. Jefford*, *Duchess of York*, *Golden Gem*, *E. Boston*, *Mrs. Harris*, *Geo. Dickson*, *Flag of Truce*, *Shirley Hibberd*, *Mrs. Morgan*, *Hon. Mrs. P. Wyndham*, *David Johnstone*, *Frank Pearce*, *Comedian*, and *Vice-President*. The colour in almost every case was exceptionally pure and bright. Mr. M. V. Seale, Sevenoaks, was accorded the second position with blooms that lacked the size and brightness of Mr. Walker's. A few of the most attractive were *Frank Pearce (self)*, *Mrs. W. Slack*, *Mrs. David Saunders*, *Maud Fellowes*, *William Rawlings*, *Peacock*, *Wm. Powell*, *Mrs. Gladstone*, *John Walker*, and *Miss Cannell*. Mr. M. Campbell, High Blantyre, was placed third with larger flowers that lacked solidity. Mr. S. Mortimer was fourth with a somewhat uneven stand, in which were several refined flowers.

Mr. John Walker maintained the front position in the class for forty-eight Show and Fancy Dahlias, distinct: and again showed a splendid stand, containing some superb flowers. The varieties were *Miss Cannell*, *Majestic*, *Buttercup*, *Colonist*, *Henry Keith*, *Emin Pasha*, *Mrs. Morgan*, *Chieftain*, *Mrs. W. Slack*, *W. Glasscock*, *J. T. West*, *Champion Rollo*, *T. W. Girdlestone*, *Mrs. Every*, *Imperial*, *Sydney Humphries*, *Jas. Vick*, *Goldsmith*, *Wm. Rawlings*, *John Walker*, *Edmund Boston*, *John Hickling*, *Diadem*, *Dr. Keynes*, *Purple Prince*, *Prince of Denmark*, *Wm. Powell*, *Jas. Cocker*, *Mrs. Saunders*, *Duchess of York*, *Flo Tranter*, *Rev. J. Gooday*, *Mrs. Gladstone*, *Victor*, *Mabel Stanton*, *Mrs. Harris*, *Mrs. Jefford*, *Arthur Rawlings*, *Comedian*, *Muriel Hobbs*, *John Wyatt*, *Matthew Campbell*, *Duke of Fife*, *Julia Wyatt*, *David Johnson*, *Maud Fellowes*, *Shirley Hibberd*, and *R. T. Rawlings*. Mr. M. V. Seale occupied the second position with an attractive stand. The colours were well blended. Some of the most conspicuous were *Eclipse*, *Crimson King*, *Watchman*, *Prince of Denmark*, *R. T. Rawlings*, *Goldfinder*, *Dr. Keynes*, *Mrs. Mortimer*, *Mrs. Charles Noyes*, and *Mabel Stanton*. Mr. S. Mortimer was placed third.

Mr. W. Treseder, Cardiff, showed magnificently in the class for thirty-

six Show and Fancy, distinct, and received the premier award. The stand, as a whole, was perhaps a trifle dark in colour, but the flowers were of such high order that any slight defect was overshadowed by general excellence. The varieties comprised Mrs. Morgan, Mrs. T. Foreman, Sunlight, Rev. J. Gooday, Goldfinder, Colonist, Dante, Dr. Keynes, Mrs. W. Slack, John Hickling, Arthur Ocock, Henry Walton, M. Campbell, Victor, Mrs. R. McKenzie, Mrs. Dodds, Goldsmith, Frank Pearce, Buffalo Bill, Mrs. Kendall, Rev. J. B. M. Camm, Pleasance, Emin Pasha, Duchess of York, J. T. West, Watchman, Prince of Denmark, Wm. Powell, Julia Wyatt, Duke of Fife, Mrs. Gladstone, Eclipse, Mrs. Langtry, Sunbeam, and Willie Garrett. Mr. G. Humphries, King's Langley, Chippenham, was second with smaller refined flowers; and Messrs. Keynes, Williams & Co., Salisbury, third.

Mr. G. Humphries went ahead in the class for twenty-four Show and Fancy varieties, distinct. The blooms were in several cases rather small, but fresh, clean, and bright in colour. There were examples of Goldsmith, Geo. Gordon, Mrs. W. Slack, Wm. Rawlings, Earl of Ravensworth, J. T. West, two seedlings, Arthur Rawlings, Dr. Keynes, Victor, Hercules, Mr. D. Saunders, Mrs. J. Downie, Mrs. Every, Sunset, Sunbeam, Frank Pearce, Maud Fellowes, Seedling, John Hickling, Goldsmith (self), Flag of Truce, and James Stephens. No second prize was awarded, and the third went to Messrs. Keynes, Williams & Co., Salisbury.

Mr. J. R. Tranter, Henley-on-Thames, annexed the first prize in the class for twelve Show and Fancy Dahlias, distinct, with an even but somewhat dull stand. The varieties were Crimson King, George Rawlings, Mrs. Saunders, James Cocker, Purple Prince, Harrison Weir, Diadem, Miss Cannell, Sunbeam, Willie Garrett, J. R. Tranter, and Mrs. J. Downie. Messrs. J. Cheal & Sons, Crawley, were a very close second with a lighter exhibit, comprising Miss Lily Large (self), Dandy, Mrs. W. Slack, Duke of Fife, John Hickling, Hon. Mrs. P. Wyndham, Daniel Cornish, T. W. Girdlestone (self), Miss Cannell, Dr. Keynes, Ethel Britton, and Hercules. Mr. J. Stredwick, St. Leonards-on-Sea, was third, and Mr. M. Baxter, Woking, fourth.

In the class for twelve Fancy Dahlias, distinct, Mr. J. Walker added to his laurels by annexing the premier prize. The varieties were Emin Pasha, Duke of Albany, Peacock, Rev. J. B. M. Camm, Frank Pearce, Plutarch, Hercules, S. Mortimer, John Britton, Matthew Campbell, Hero, and Mrs. J. Downie. It was a superb stand. Mr. M. V. Seale was second with smaller but well built flowers; Mr. S. Mortimer, Rowledge, Farnham, third. There were four competitors.

Mr. Jas. Stredwick was in excellent form in the class for eighteen distinct Cactus Dahlias, to be shown in bunches of six blooms. The varieties included Mayor Tuppenny, Uncle Tom, Eclipse, The Emperor, Britannia, Seedling, Countess of Lonsdale, Viscount Sherbrooke, Mrs. Sanders, Stella, Night, Mary Service, Magnificent, Seedling, Charles Woodbridge, Keynes White, Harmony, and W. F. Balding. Messrs. J. Burrell & Co., Cambridge, were second, but they were not showing nearly up to their usual standard. Messrs. Keynes, Williams & Co. were third; and Messrs. J. Cheal & Sons fourth.

For twelve distinct Cactus Dahlias Mr. S. Mortimer first of the five exhibitors with a striking stand. The varieties were Lucius, Britannia, Mary Service, Chas. Woodbridge, Alfred Vasey, Ebony, Keynes' White, Magnificent, Countess of Lonsdale, Mrs. John Goddard, Starfish, and Regulus. Mr. M. V. Seale was placed second with Fantasy, Lady Pensance, Mary Service, Britannia, and Harmony as his best varieties. Mr. G. Humphries was third, and Mr. M. Campbell fourth.

Mr. M. Campbell was first in a very keen contest for twenty-four Cactus Dahlias, distinct, shown on boards. The stand was even, and the flowers were very fresh and bright. The varieties comprised Countess of Lonsdale, Ethel, Night, Britannia, Cinderella, Eileen Palliser, W. Cuthbertson, Exquisite, Arachne, Magnificent, Stella, The Clown, Mrs. John Goddard, Lucius, Starfish, Keynes' White, Harmony, Cycle, Ruby, Primrose Dame, Firebrand, Mrs. K. Foster, and two others. Mr. M. V. Seale, with best blooms of Lucius, Britannia, Lady Pensance, Starfish, Island Queen, Charles Woodbridge, Fantasy, Cinderella, and Harmony, was second; and Mr. J. Stredwick third. There were nine competitors in this class.

In the class for twenty-four distinct Pompons, shown in bunches of ten blooms, there were four competitors, of whom Mr. M. V. Seale was placed first with an excellent exhibit. The varieties comprised Distinction, Tommy Keith, Demon, Sunny Daybreak, Doctor Jim, Donovan, Red Indian, Rosebud, Hypatia, Adrienne, Snowflake, Douglas, Lilian, Ernest Harper, Rosalie, Captain Boyton, Phoebe, Emily Hopper, Nellie Broomhead, Whisper, Crimson Gem, Ganymede, Nerissa, and Mary Kirk. Messrs. J. Cheal & Sons were a most creditable second with excellent examples of Jessica, Red Indian, Donovan, Mara, Ernest Harper, Adrienne, Ernest Harper, Captain Boyton, and Norah. The third position was assigned to Messrs. Keynes, Williams & Co.

There were only three competitors in the class for twelve bunches of Pompons, each having ten blooms. Messrs. J. Burrell & Co. were first with a singularly charming stand, in which almost all the blooms represented the best type of flower. The varieties were Bacchus, George Brinkman, Mabel, Emily Hopper, Tommy Keith, Douglas, Isabel, Nerissa, Distinction, Mary Kisk, Eurydice, and Whisper. Mr. J. Walker was second, and Mr. G. Humphries third.

Two competitors only came forward with twenty-four distinct single Dahlias, each variety to be represented by a bunch of ten flowers. Messrs. J. Cheal & Sons were decidedly first with a stand characterised by well blended staging of finely formed and richly coloured flowers. The varieties were Naomi Tighe, Amos Perry, The Bride, Jack Sheppard, Sunshine (new), Donna Casilda, Alba perfecta, Aurora, Miss Glasscock,

Polly Eccles, Formosa, Leslie Seale, Sunbeam, Violet Forbes, Demon, Tommy Puck, Miss Gordon, Louise, Syringa (new) Eric, Miss Roberts, Miss Morland, and Columbine. Mr. M. V. Seale received the second prize. The varieties most conspicuous were Naomi Tighe, Formosa, Eclipse, Huntsman, The Bride, Demon, Polly Eccles, Aurora, Beauty's Eye, and Phyllis.

Mr. J. Walker was apparently the only exhibitor of twelve single Dahlias, distinct, shown in bunches of ten blooms, and received the first prize. The varieties comprised Naomi Tighe, Penelope, The Bride, Eclipse, Donna Casilda, Aurora, Miss Henshaw, Beauty's Eye, Victoria, Miss Roberts, Leslie Seale, and Formosa.

AMATEURS' CLASSES.

There were four entries in the amateur class for twenty-four Show and Fancy varieties, distinct; but Mr. F. W. Fellowes, Putteridge Grange, Luton, was adjudged the victor with an even exhibit. The varieties were:—Back row: Chieftain, Majestic, Bella, Norma, T. W. Girdlestone (self), Earl of Ravensworth, Prince Bismarck, and Mrs. W. Slack. Middle row: Harrison Weir, Professor Fawcett, John Walker, Prince Ranji, Dr. Jim, Willie Garrett, Kit, and John Bennett. Front row: Jas. Vick, Lilian Mary, Arthur Rawlings, Shotesham Hero, Prince of Denmark, Mrs. Gladstone, Duchess of York, and Mabel Stanton. Mr. T. Austias, Brill, was second. Here the blooms were not quite so even. The best flowers were Mrs. Morgan, Hercules, Maud Fellowes, Colonist, Kathleen, and Mrs. W. Slack. Mr. R. Burgin, St. Neots, was third; and Mr. W. Mist, Igham, fourth.

There were three entries for eighteen blooms, distinct. Mr. T. Jones, Ruabon, N. Wales, was first with somewhat coarse flowers. The varieties were Colonist, Arthur Ocock, Jas. Stephens, Mrs. W. Slack, Mr. Chamberlain, J. T. West, John Walker, Frank Pearce, Duchess of Teck, Dorothy, Dr. Keynes, Chieftain, John Bennett, Goldfinder, Mrs. Gladstone, Reliance, Warrior, and R. T. Rawlings. Mr. R. C. West, gardener to H. J. Wigram, Esq., Salisbury, followed with good blooms of Mrs. W. Slack, Duchess of Albany, W. Powell, Goldsmith, and Peacock; and Mr. W. Peters, gardener to A. C. J. Hare, Esq., St. Leonards-on-Sea, third.

Six exhibitors staged for the twelve varieties, distinct. Mr. S. Cooper, Chippenham, was first with a strong board. His varieties were Shirley Hibberd, Duchess of Albany, Rebecca, Peacock, Harry Keith, Victor, Mrs. Langtry, John Walker, Maud Fellowes, Colonist, Mrs. Gladstone, and Arthur Rawlings. Mr. W. Mist was second. His best blooms were Peacock, Colonist, R. T. Rawlings, and Warrior; and Mr. E. Jefferies third. There was a poor entry for the six varieties. Mr. A. Starling, gardener to P. Reynolds, Esq., Romford, was first, staging Champion Rollo, J. T. West, Majestic, R. T. Rawlings, Arthur Ocock, and Maud Fellowes. Mr. G. T. Cronk, Hansworth, was a close second; and Mr. A. Taylor, East Finchley, third.

Five boards were staged in the class for twelve Fancy varieties. Mr. R. C. West was ahead with a good board. The varieties were Dorothy, General Grant, Duchess of Albany, Rev. J. B. M. Camm, Peacock, Goldsmith, Comedian, Mutt, Campbell, Dazzler, Mrs. Downie, Emin Pasha, and Mrs. Sanders. Mr. F. W. Fellowes followed with good blooms of Miss Browning, Hero, and Mrs. J. Downie, and Mr. W. Mist third. The competition was keen for six blooms, but the first place was awarded Mr. R. Burgin. Mr. E. Jefferies, Langley Burrell, was second, and Mr. Thos. Jones third.

The premier Cactus class for twelve varieties, distinct, in bunches, brought three competitors. Mr. R. Keeble, gardener to F. W. Sharp, Esq., Twyford, was an easy winner for first position, the varieties being clean and well staged. There were Viscountess Sherbrooke, Chas. Woodbridge, Britannia, Stella, Mary Service, Lucius, Lady Pensance, Alfred Vasey, Keynes' White, Countess of Lonsdale, Fantasy, and Magnificent. Mr. J. F. Hudson, Acton, was second with smaller flowers, his best bunches were Magnificent, Starfish, Arachne, Chas. Woodbridge, and Chancellor, and Mr. W. Mist was third.

In the class for nine sprays, three blooms each. Here Mr. H. A. Needs, Horsell, Woking, was first with a beautiful exhibit; the varieties were Keynes' White, Chas. Woodbridge, Mary Service, Ranji, Starfish, Lady Pensance, Island Queen, Alfred Vasey, and Cinderella. Mr. W. G. Handcock, Kingsworth, Ashford, was placed second with good blooms, staged without foliage; the best sprays were Magnificent, Fusilier, Chas. Woodbridge, and Night. Mr. L. McKenna was third.

For six sprays, three blooms each, Mr. Edward Mawley, Berkhamsted, led off with well displayed bunches of Magnificent, Chas. Woodbridge, Britannia, Night, Mary Services and Starfish, and Mr. Jas. Bryant, Salisbury, was second. For six bunches of six blooms each, Mr. R. Keeble was first with a splendid exhibit. The varieties were Beatrice, Stella, Cycle, The Clown, Mary Service, and Lucius. Mr. J. F. Hudson was second with good bunches of Magnificent, Night, Mary Service, and Regulus, and Mr. L. McKenna third. There were only two competitors in the class for twelve bunches of Pompons, six blooms each. Mr. J. F. Hudson was first with White Britton, Emily Hopper, Grace, Bacchus, Lilian, Tommy Keith, and Hypatia, all in good form. Mr. W. Peters followed with good trusses of Elegant, Nellie Broomhead, Captain Boyton, and Katie; and Mr. C. Osman, Sutton, was third with coarser flowers.

Mr. R. Burgin was first in the class for six sprays of six blooms each, Geo. Brinkman, Mars, and Tommy Keith were the best bunches. The winner of the second prize was Mr. W. Mist, with good bunches of George Brinkman, Phoebe, Tommy Keith, and Keats. Mr. E. Jefferies was third. The single varieties were not a great feature. In the class for six varieties, in bunches of ten, Mr. J. F. Hudson was first, but, sad to relate,

none of his exhibits was named. Mr. W. Mist was second with bright clean sprays of, again without labels, and Mr. C. Osman third.

Mr. Ed. Mawley was the only exhibitor of six sprays of six blooms each, and was awarded first prize for a bright even display. The varieties were Beauty's Eye, Polly Eccles, Miss Roberts, Victoria, Demon, and Northern Star. In the novices' classes some really good stands were staged. For six blooms, Show or Fancy varieties, Mr. T. Jones was placed first with a fine stand. The varieties were Colonist, Jas. Stephens, Burgundy, Duchess of York, Arthur Ocock, and John Walker, followed by Mr. W. J. Joy, Romford, with smaller though neat flowers. There were seven competitors who tried their prentice hands at the class for six bunches of Cactus, three blooms each. The first position was taken by Mr. W. E. Reeve, Woking, with a beautiful exhibit. The varieties were Chas. Woodbridge, Keynes' White, Mary Service, Island Queen, Starfish, and Countess of Gosford. Mr. W. Peters was a good second, but the flowers were not so well arranged as they might have been, and Mr. H. L. Bronson, Sidcup, was third.

OPEN CLASSES.

The bouquets in the open classes were excellent, the first prize falling to Mr. Wm. Treseder, Cardiff, for a beautiful exhibit; Mr. M. V. Seale, Sevenoaks, following with a heavier arrangement. The floral devices were also much admired. Mr. W. Treseder was again to the front with an enormous harp made of red and white Cactus Dahlias with appropriate foliage. Mr. Seale was second with an upright cross of white Pompons, with a beautiful base of Cactus varieties of the same colour. The competition for three vases of Cactus Dahlias was keen. The first prize was awarded to Mr. R. Edwards, Beechy Lees, Sevenoaks, for a well arranged plan. Mr. J. F. Hudson was second; and Mr. H. A. Needs third. For a single vase of twelve Cactus blooms Mr. Ed. Mawley was first in a strong competition, Mr. H. A. Needs following, and Mr. Hudson brought up the rear. For a single vase Mr. J. F. Hudson secured the first prize with a pretty arrangement in yellow and white, closely followed by Mr. R. Edwards, while Mr. W. C. Pagram was third.

There were five stands of six dark Dahlias, one variety. Mr. M. V. Seale securing premier award with Prince of Denmark in good form. Mr. J. Walker was an excellent second with the same variety, and Mr. S. Mortimer third with Victor. Mr. J. Walker went ahead in the class for six blooms of any light Dahlia, not yellow, with Mrs. Gladstone, in superb condition. Mr. R. C. West, gardener to H. J. Wigiam, Esq., Salisbury, with the same variety, was second; and Mr. M. V. Seale was third with Florence Tranter. There were eight stands in the class for six blooms of any yellow variety, Mr. J. Walker being first with Wm. Powell, Messrs. J. Cheal & Sons second with Mabel Stanton, and Mr. S. Mortimer third with R. T. Rawlings.

For six blooms of any red or crimson Dahlia Mr. R. C. West was first with grand blooms of Duke of Fife, Mr. S. Mortimer second with Arthur Rawlings, and Messrs. J. Cheal & Sons third with Warrior. There were four exhibitors. Five growers brought six white Dahlias, one variety, of whom Mr. J. Walker was placed first with John Walker in perfect form. Mr. S. Mortimer was second, and Mr. M. V. Seale third, each with the same variety. For six blooms of any one Dahlia, of any colour other than those specified, there were five stands. Mr. M. V. Seale was first with Duchess of York, Mr. S. Mortimer second with Sunbeam, and Mr. J. Walker third with Chieftain.

Of any tipped Dahlia there were four stands, each of six blooms. Mr. J. Walker was first with Miss Browning, in splendid condition; Mr. S. Mortimer second with Peacock; and Mr. M. V. Seale third with Mrs. Saunders. For six blooms of any striped Dahlia, one variety, Mr. J. Walker was again first with Prince Henry; Mr. M. V. Seale second with Mrs. John Downie; and Mr. Thos. Antiss, Brill, Bucks, third with Goldsmith. For six blooms of any edged Dahlia Mr. J. Walker was first with Miss Cannell; Mr. M. V. Seale second with T. J. Saltmarsh; and Mr. R. C. West third with Florence Tranter.

CERTIFICATED VARIETIES.

Augustus Hare (J. Stredwick).—Orange red, edged crimson; a good petal, of true type.

Elsie (J. Burrell & Co.).—Yellow at the base of petals, heavily suffused with mauve; a good flower.

Emperor (Keynes, Williams & Co.).—A red with purple tips.

Flame (J. Cheal & Sons).—A single variety; orange, striped and splashed with crimson.

Girle (Miss Girdlestone).—A single, with creamy ground, edged bright red.

Green's White (J. Green).—A grand white Cactus variety with the true claw-like petal of great depth; a pure white, with good stems.

Innovation (Keynes, Williams & Co.).—After the style of Arachne, with a redder base.

Major Weston (J. Stredwick).—Deep red, good type of petal.

Mayor Tuppenny (J. Stredwick).—Outer petals deep apricot, with yellow centre; of true form.

Mrs. J. J. Crowe (Keynes, Williams & Co.).—A light yellow of good shape.

Mrs. Sanders (J. Stredwick).—Bright yellow; true Cactus type.

Uncle Tom (J. Stredwick).—A deep maroon, of good form.

William Treseder (W. Treseder).—A white with a suffusion of pink; good petals.

Zephyr (J. Green).—Deep rosy pink, true petal, of excellent form.

NON-COMPETITIVE EXHIBITS.

Mr. John Green (Hobbies, Ltd.), Norfolk Nurseries, Dereham, staged a beautiful display of Cactus Dahlias, chief of which were Red Rover, a grand red variety of the true type, the colour a good bright red, the

blooms being simply enormous; Green's White, a splendid white Cactus of the true type, the petals are well formed, and the blooms deep and pure in colour, certainly the best white Cactus to date. Other good varieties were Vixen, Golden Plover, Dr. Nansen, Zephyr, Clio, and Erasmus.

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood, staged an extensive exhibit of Cactus, Show, and Pompon Dahlias, arranged in a large bank of hardy flowers. The chief Dahlias were Chas. Woodbridge, Mary Service, Beatrice, Starfish, Fusilier, Iona, Fantasy, Mrs. W. Noble, and Mrs. A. Peart in the Cactus; while the Pompons were represented by a collection of all the most popular sorts.

Messrs. J. Laing & Sons, Forest Hill, staged a collection of Dahlias of the Cactus and Pompon sections, garden Roses in variety, with hardy flowers and Cannas. The same firm also staged a collection of Caladiums, hardy ornamental foliage plants, and Ivies.

Messrs. T. S. Ware, Ltd., Tottenham, contributed an enormous exhibit of Cactus and Pompon Dahlias well arranged with Grasses and foliage in the former section; Mrs. Turner, Fusilier, Ruby, Magnificent, Night, Ebony, Captain Broad, Standard Bearer, Britannia, Arachne, Capstan, and Wm. Cuthbertson were well shown. The Pompons were in great variety, and included such popular varieties as Darkness, Gerbie Fussell, Fairy Tales, Leila, Tommy Keith, Mars, and Little Sweetheart.

From the Home for Flowers Messrs. H. Cannell & Sons, Swanley, brought a fine collection of Cactus varieties, beautifully displayed in *Asperagus* and *Gypsophila paniculata*. Those most noteworthy were Frank Woodgate, Oporto Tait, Mr. E. Cannell, Britannia, The Clown, Gipsy, Mrs. Bessie Dickens, Exquisite, Norfolk Hero, King of Siam, Radiance, Ruby, and Austin Cannell.

THE NATIONAL DAHLIA SOCIETY'S CERTIFICATES.

As your reporters found at the Crystal Palace last Friday, the present method of making awards to seedling Dahlias in such large numbers left something to be desired, as for a long time after the awards were made no indication was given as to which seedlings had been recognised. I suggested to Mr. Mawley later that it would greatly facilitate the work of the Press and interest others, were the Committee making the awards to instruct the Secretary to place a small card on which was printed "certificate of merit," on all flowers getting such awards as soon as made. These small cards could be taken away when the duly prepared certificates were placed to the respective exhibits.

In watching the proceedings of the Committee in the voting I was forced to the conclusion that a radical amendment is needed in relation to that process. In one case, out of some twelve or fourteen members present three only voted for a certificate, and none against. An award should only be made when carried by a full majority of those present. In another case seven voted for, and six against; that was a bare majority, and the poor quality of the variety may well be understood when six members voted against it. Certainly a much fuller majority is essential. There are too many members of the trade on the Committee, and in granting certificates, a matter of trade interest, those members should not be more than one-fourth of the whole body.—A. D.

THE YOUNG GARDENERS' DOMAIN.

EARLY GRAPES.

(Continued from page 200.)

As the shoots begin to reach the glass they should be gently eased down to the trellis; stop all growths one leaf beyond the bunch, and also remove all laterals as they appear. To insure a good crop it will be necessary when in bloom to brush the bunches with a rabbit's tail fastened to the end of a stick about midday, and to maintain a free circulation of air in the house. After the fruits are set afford a temperature of 55° to 60° at night, 60° to 65° by day, and well damp the path and border when the weather is bright. Remove all surplus bunches, attend to the thinning and the removing of laterals, thus causing the berries to swell more vigorously. In thinning do not turn the bunches about, and be very careful not to allow the points of the scissors to touch the remaining berries.

At this stage when watering sprinkle some artificial manure on the borders, so that it may be washed in, and also an occasional watering with soft water will benefit the Vines during the swelling of the fruit. Do not force them too much during the stoning; it is far better to have the house below than above its temperature. When stoning is completed the temperature may be again increased, and if any red spider be detected dust a little flowers of sulphur on the affected parts. I may say in my experience that I have seen an early vinery completely covered with red spider by neglecting to damp the house sufficiently. As the berries begin to show colour afford a temperature of 75° to 80° by night, 80° to 85° by day, and admit a little more air by day, and night if the weather permit. Look over the bunches occasionally for decayed berries, and if any remove them, or they will cause others to decay.

As the bunches are gathered it is advisable to syringe the foliage in the evenings to keep all pests in check, but in doing so be careful not to wet any of the remaining bunches, and always use warm rain water. After the fruit is gathered admit plenty of air on all favourable occasions, keeping a gentle heat in the pipes night and day to help ripen the wood for the following season's fruit. Do not let the borders want for water, and in watering a little lime sprinkled on the borders and washed in will prove beneficial. The two following varieties are very suitable for early work—Black Hamburg, and Foster's Seedling.—P. R.

SENECIO PULCHER.

THE Groundsels or Senecios are a very extensive family, numbering nearly 1000 species, very variable in form and size; so remarkable are they in this respect that there is a gradual passage from small fleshy annuals to tall arboresecent perennials. They occur in almost every latitude, but are particularly abundant in temperate regions; very strong in Southern Africa, not less than 200 species finding a home there, and they are very plentiful in temperate South America. In this country they are represented by several species, of which the common Groundsel (*S. vulgaris*) and the Rag-weed (*S. jacobæa*) are perhaps the commonest; and if we were to judge the merits of the family for decorative uses by the former standard we should cease to entertain anything like friendly feelings

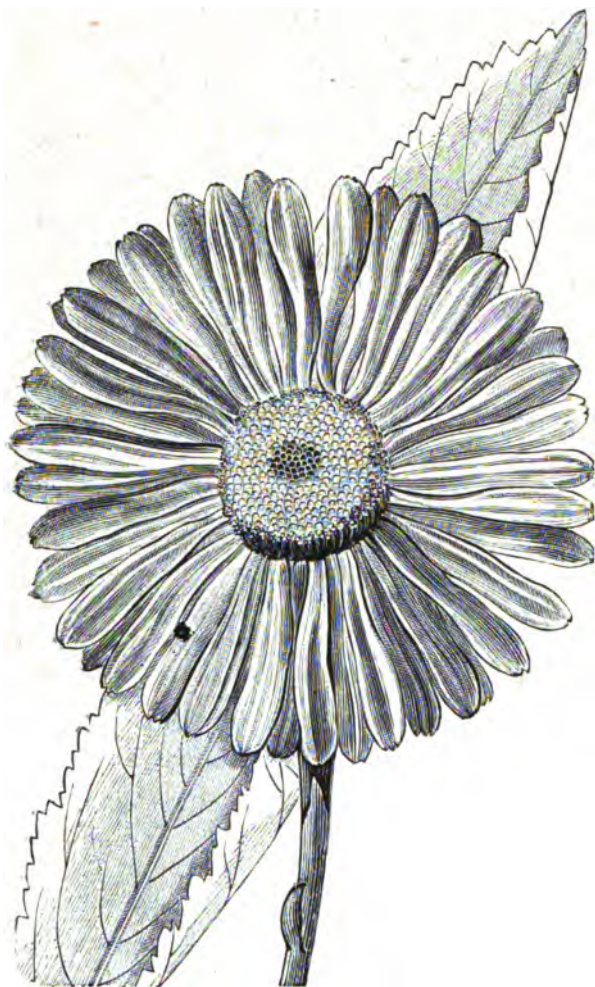


FIG. 44.—SENECIO PULCHER.

towards them. Happily, however, many of them are extremely showy, both hardy and tender kinds; many of the alpine species are very pretty rock plants, and by no means common.

Of all the introduced hardy kinds perhaps the subject of these remarks is the showiest. It is a vigorous-growing perennial with large fleshy or almost leathery leaves of a deep green colour and shining; the radical or root leaves are variously dentated and lobed, while those on the stem are ragged and irregularly cut. The flower stems are from 2 to 3 feet high, very stout, freely branching at the top, and supporting numerous flowers with the rays of a brilliant purplish-crimson colour, and the disc or centre golden yellow, measuring 3 inches or more in diameter, and lasting a considerable time in beauty. It flowers during the late autumn months, when it is of special interest and very welcome; and when well cultivated it is a most attractive plant—indeed so effective is it that there is no plant in flower with the same colouration comparable to it.

Senecio pulcher (fig. 44) is one of those plants which may readily be cultivated in ordinary borders and with similar treatment, but especially does it thrive in rich loamy soil in a damp situation, as it enjoys plenty of moisture during the summer months. Some plants last season planted in almost a swampy place developed remarkably and flowered very freely; in fact, a connoisseur of such plants stated he had never seen the species

in finer condition. Some of the flowers measured $4\frac{1}{2}$ inches across, and the rays were proportionately broad, which I consider was entirely due to the circumstances under which the plants were grown. As regards the pot culture of this plant, there is no difficulty in securing good flowering plants by that treatment in, say, 5 or 6-inch pots, using as soil good yellow loam, leaf soil, and well-decayed cow manure with some wood ashes and sand, or in lieu of the ashes fine nodules of charcoal; the latter is of decided advantage in growing the plant. Perfect drainage is also essential, and an abundance of moisture during the growing season; and it would be advisable to plunge the pots in some material such as spent hops or ashes, which would greatly assist to keep the roots cool and moist.—H.



FRUIT FORCING.

Vines.—Early Forced in Pots.—For affording a supply of new ripe Grapes in late March or early in April, these are in some respects better than planted out Vines, which are not always satisfactory. In practice it is therefore found better to secure stout, well-matured canes, in pots, and after cropping them throw the Vines away, new ones being provided annually to take their place. Those for starting in November will now have the wood brown and hard, the buds perfected, and the foliage sufficiently matured, if not off, for the removal of the laterals and shortening the canes to from 6 to 8 feet, according to the vigour, trellis to be occupied, and position of the plump buds. Keep the Vines rather dry at the roots and in a cool airy house.

Earliest Forced House.—Where care has been taken to preserve the principal foliage by cleanly culture, and a judicious encouragement of the laterals after the fruit was cut to prevent premature ripening of the principal leaves, the early forced Vines will now be in a condition to have the laterals reduced, also the bearing shoots, which will tend to induce rest and admit of early final pruning. This may be performed on early forced Vines before the leaves are all down, as the wood being brown and hard, and the leaves, or some of them, turning yellow, they will not bleed or start the buds, provided the house is kept dry, fully ventilated, and cold. The pruning will cause the Vines to go more quickly to rest, but it will have the opposite effect on unripe ones and where the atmospheric conditions favour growth.

If the Vines are in good condition they will afford bunches quite large enough if pruned to a couple of buds from the base, but when they are weak from over-cropping, or a long course of forcing, the spur shoots may be left a little longer to secure larger bunches. When this method is adopted, shoots should be taken from as near the base as possible, and not be allowed to carry fruit, but be stopped at the sixth leaf, the laterals to one, and subsequently as produced. Such shoots are sure to form good buds, as the extra foliage tends to invigorate the Vines, and support the fruit on the other shoot, which can be cut away when the fruit is removed in favour of that retained for fruiting the following season. The alternate system of fruiting requires the shoots being kept wider apart for development and exposure to light and air.

If the Vines are grown on the extension system, it will be necessary to cut to plump buds on firm ripe wood, being guided by the space at command, for there must not be overcrowding. It is important that the house be thoroughly cleansed. Any weakly Vines, or those in an unsatisfactory state, may be improved by removing the soil down to the roots and substituting fresh loam, with an admixture of one-sixth old mortar rubbish, a tenth of wood ashes or charred refuse, a fortieth of crushed bones, and a sprinkling of some approved fertiliser. Lift any roots available for the purpose, laying them upon the fresh compost, and cover about 3 inches deep. This is best done before the fall of the leaf. It is a mistake to allow Vines when at rest to become dust-dry at the roots. Comparative dryness is desirable, yet great injury is done by allowing the border to become dried to the extent of cracking and severing the rootlets. Where glass lights are at command, they should be employed over outside borders to throw off heavy rains. In some places such aids are not available, hence a covering of leaves and litter after cold weather sets in to prevent the soil freezing, which is an absolute necessity in early forcing, has to content the grower.

Succession Houses.—Midseason Vines have the fruit ripe or ripening, and will need a free circulation of air, especially in the early part of fine days, as the night dews are heavy, and the condensation of moisture on the berries takes place rapidly indoors if the atmosphere rises considerably before air is admitted. A little air constantly is a good thing, but it must be increased early on fine mornings, and a free circulation allowed whenever the weather is favourable. Moderate air moisture is essential for the benefit of the foliage and the sound keeping of the berries, but a close stagnant atmosphere soon causes the Grapes to spot and decay. The laterals should be kept from interfering with the access of light and air to the principal leaves, otherwise a good spread of healthy foliage over black Grapes is one of the best safeguards against their losing colour. White Grapes also do not become brown so soon when not exposed to the direct rays of the sun as they do when the foliage is thin. Where the Grapes have been cut the laterals may be reduced, also the

bearing shoots cut back to two or three leaves above the pruning buds. This will facilitate cleansing the foliage of red spider and other pests, and assist in plumping the basal buds as well as the ripening of the wood by the increased amount of light.

Late Grapes.—Where the Vines were started in good time the Grapes are well advanced in ripening. Keep the laterals well thinned, and thereby admit as much air as possible for finishing the crops—not by large reductions at a time, but by frequent pinchings. Maintain an artificial temperature of 70° to 75°, falling 5° or 10° during the night, increasing to 80° or 85° by day, accompanied with a circulation of air constantly, and free under favourable atmospheric conditions. Where the Grapes are only beginning to colour somewhat, sharp firing will be required to finish them properly before the days are too short and cold to admit of free ventilation, it being possible to do more in the next month or six weeks' time than in twice the time later on. With the Grapes well advanced in colouring and ripening the atmospheric moisture should be reduced. Those only colouring should have a moderate amount of atmospheric moisture to assist their swelling, not neglecting to supply water to the roots as required.

Young Vines.—Those that have made a strong growth and are late in ripening should be assisted with fire heat, continuing it until the wood is ripe, accompanied with free top and bottom ventilation. Discourage further growth by the removal of the laterals as they appear, and withhold water from the roots, only the soil must not be allowed to become too dry; and if the Vines have the run of outside borders, some spare lights placed over the border, so as to throw off the wet, will be very beneficial to the roots. If the autumn be dry the border is better exposed, but heavy rains thrown off will be beneficial when the wood does not ripen kindly.

THE KITCHEN GARDEN.

Mushrooms.—After the rain that has fallen in many districts Mushrooms will be abundant, though not of so much value as they would be if developed a little later in the season. Should the rainfall be heavy, and the weather keep dull for a few days, the probability is that the crop, if heavy, will be of short duration, and in any case the forming of beds, both in the open and in sheds or Mushroom houses, ought to commence at once with a view to having a late autumn supply.

Open-air Beds.—Only ridge-shaped beds are suitable for the open air, and these may be formed of any convenient length. The manure should have a good portion of short staled straw mixed with it, throwing on one side the long straw only, and keeping this dry so as to have abundance for covering the beds after they are formed. When enough manure has been collected form a heap to ferment, which it will do in a few hours. This must not be left untouched long enough for the centre to attain to a "white heat," but every day and occasionally twice in a day it should be turned inside out, the aim being to dissipate the ranker gases without rendering the manure worthless for heating purposes. Ten days may safely be expended on the preparation of a large heap of manure, and during that time it should be protected from heavy rains, or, if dry when turned, be lightly watered. When put together finally it ought to feel comfortably hot, be just moist enough to bind, and smell sweet.

Forming and Spawning.—Ridge-shaped beds should be formed on a level, hard base in a spot sheltered from cold winds. They ought to be about 3 feet wide at the base, and gradually narrowed to about 9 inches, finishing off at a height of 3 feet in the centre of the ridge. The manure should be put together in layers, made as firm as possible with the back of a fork, and have the surfaces combed down neatly. Before the heat declines much below 80° insert the spawn, of which each cake should not be broken up into about eight pieces. Insert these firmly and flatly in the bed nearly level with the surface of the manure, at intervals of about 6 inches apart each way, spawning the ends but not the ridge. Fresh, fine, yellow or brown loam is suitable for casing the beds, and if this cannot be dug from immediately below the turf in a meadow, substitute the best garden soil procurable. This should be laid on from 2 inches to 3 inches in thickness, made smooth, firm, and level. Arrange strawy litter so as to form a thatch to throw off heavy rains. Prepare more manure for successional beds.

Seasonable Work.—Rains having fallen heavily and generally, it is to be hoped there has been enough to render it possible to complete the work of cropping for the winter. Celery planted thus late will not attain to a great size, but may prove useful next spring. Leeks should be planted thickly and deeply in holes just large enough to allow the stems to swell to a good size, out of which they will turn ready blanched. Plant Cabbage extensively. If old stumps have been saved, these will produce large quantities of small hearts and greens, especially if assisted by having nitrate of soda lightly sown between the rows, or liquid manure applied freely. Autumn Cauliflowers may be greatly assisted in a similar manner.

It is not yet too late to plant Borecole. Dispose the plants somewhat thickly in good ground. Turnips should be sown on ground newly cleared of Potatoes. If they fail to "bulb" properly, and are not wanted for greens, they may be dug in for manure. Plants already up should be dusted occasionally with soot and lime as a preventive of insect attacks. Thin out early and lightly at first. Plants given good room are the first to form serviceable roots. Transplant Lettuce, leaving some undisturbed to heart-in a little earlier in the autumn. Treat Endive similarly, arranging a portion of the plants where they can be temporarily protected on frosty nights. Weeds will spring up in all directions. Keep them down by means of the Dutch hoe frequently used.

THE BEE-KEEPER.

FEEDING BEES.

ONE of the most important operations in connection with successful bee-keeping is feeding the bees in the autumn. Too often is this left until the cold weather sets in. When the majority of stocks in the country were kept in straw skeps, little feeding was necessary, as under the system by which they were managed the bees were wintered on their natural stores. In a general way a given number of stocks were condemned to the sulphur pit, the colonies that remained being allowed to retain the surplus stored in their hives. They had thus sufficient stores to carry them over till the following spring. The heaviest stocks were often left for wintering without taking into consideration the age of the queens, and owing to the fact of many of the queens being old and worn out, and quite incapable of fulfilling their proper functions, stocks were often found queenless in the following spring.

As each spring comes round we have several queries on this subject. Bee-keepers cannot understand why their bees have disappeared from their hives, as on examination neither queen nor bee is there, although some stores are found in abundance. When this is the case it is easily explained. The queen having died during the autumn or winter, the bees that remain dwindle away at a rapid rate. Those from the other colonies are not slow to find out the stores from such stocks are unprotected, and they commence to clear out the dead bees, and the few bees that remain alive will often unite themselves to another colony having a queen. This is a common occurrence, and as the weather becomes warmer they clear out the stores as well.

With the advent of the movable frame hive much of this was changed. It still goes on, however, with the straw skeppist, but in a lesser degree. Instead of the bees being destroyed their lives are saved by bee-keepers in various districts, who manage their stocks on the modern system, and are thus able to place the driven bees on frames of fully drawn out combs.

Whether the stock is composed of driven bees, or it has been worked for a surplus during the past summer, it is all the same, feeding must be carried out on rational lines. If a colony has been kept for extracting, and the honey removed from the supers as soon as it is partly sealed over, is examined previous to being fed, it will be found that all the honey has been carried into the super. Those colonies, however, on which sections have been worked, and remained on the hives until every cell was sealed over, will be found to have ample stores in the brood nest, in which case it will be unnecessary to feed them. The above shows how it is that some colonies require more feeding than others. This is a fact that should not be overlooked when comparing the weight of honey obtained from a hive on which sections have been worked and those used for extracting purposes.

In this district (South Yorkshire) there is a better market for extracted honey than for honey in comb, hence the majority of our stocks are used for extracting purposes, although it entails a greater amount of labour in feeding up for winter. The reason why those stocks worked for comb honey have ample stores in the brood nest at this season is, when honey is coming in freely the crates of sections are in various stages of development, the majority of them being partly sealed over but not quite ready for removal. The bees have thus not sufficient space in the supers to store the extra surplus, and they fill all the empty cells in the brood nest. These are sealed over in due course and will not be uncapped, although an extra crate of sections may afterwards be given to them. We have sometimes tried to prevent the storing of honey in the brood nest by giving a crate of sections directly the previous one placed on the hive was half filled, but the result was always the same. How and when to feed must be left to future notes.—AN ENGLISH BEE-KEEPER.

A VALUABLE BEE TREE.

TILIA PETIOLARIS.

THE hum of bees in Lime trees when these are in flower is familiar to all observers, and apiarians appreciate the large quantities of honey gathered during the, to them, too short season when the trees are yielding the coveted supply.

On the occasion of a honey show at Pierrepont, Frensham, the beautiful seat of R. H. Combe, Esq., early in August, some of the members of the Council of the Surrey Bee-keepers' Association, which, in conjunction with the County Council, is carrying on an active and useful campaign in the county, discovered among the Lime trees in the park a handsome specimen, differing from all others, and on which they set very great value as a honey-yielding tree. It was alive with bees, which had abandoned all other contiguous Limes for the simple reason that they were fast going out of flower, while the one over which they

were rejoicing was just coming in. "Here," the experts said, "is a grand successional flow—a doubling of the length of the Lime honey season—and if the name of the tree can be obtained it should be made widely known for the benefit of apiarians."

Flowering specimens were thereupon sent to Kew, and identified by the authorities there as *Tilia petiolaris*. Recognising the fact that Messrs. James Veitch & Sons, Ltd., Chelsea, grow a collection of Limes, samples were also sent there for comparison, as trees are not obtainable at Kew, and their reply was: "We have no doubt the Lime is *Tilia petiolaris*."

It is evidently a scarce form, and the price of trees is comparatively high. This, however, is a small matter to those who wish to grow honey, of which a few trees will yield a large amount. Apart from that, no Lime is more ornamental than the kind under notice. Its annual growths are strong yet pendulous; leaves large, dark green on the upper surface, silvery below; flowers larger and heavier than those of ordinary Limes, and, as before said, later, this constituting the value of the species to apiarians.

There are many beautiful features in the grounds of Pierrepont, and excellent work to be seen in the gardens, by Mr. Turner, while the great hall of the mansion, as furnished with stately Palms and groups of plants, presented a distinguished and charming appearance.



•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Scorzonera Unsatisfactory (*T. W. B.*).—This vegetable likes a deep rich soil, not from freshly manuring, but well working and applying decayed manure in the previous autumn, or growing on land that has been heavily manured for a previous crop. There is no need to make holes for it with a crowbar 2 feet apart and fill them with rich mould and sand, but simply draw a drill about an inch deep and place the seeds in it a couple of inches apart, covering with light soil. The rows should be 18 inches asunder, and the plants thinned to 9 inches. The seed ought not to be sown before the middle of April; even then some of the plants will run to seed. Sandwich Island Mammoth Salsafy produces straight clean roots twice the size of common Salsafy.

Belworms and Cucumbers (*G. R. T.*).—When Cucumber houses become infested it is extremely difficult to eradicate the pests. Hence we should say—1. The probable cause of infection is that of already infected structures, then the soil employed may contain the animals, and their natural food being cut off, they turn to the Cucumbers and other plants for sustenance. 2. The preventive measures depend in a great degree upon the circumstances, but in addition to a complete clear out of the structures every season, the whole should be thoroughly scalded with boiling water, so as to reach all parts containing organic matter. Then every particle of compost should be heated to over 130° by dry heat. Add to the soil 2½ per cent. of basic slag and 1½ per cent. kainit, some time before use, and turn occasionally. 3. If, in spite of all precaution, the disease reappear, we know of nothing better than the judicious use of fertilisers, and top-dressing the plants from time to time, so as to induce fresh roots and keep the plants on their legs. Mr. Iggliden found a weak solution of soluble phenyle useful, supplemented by waterings with nitrate of soda, and he, perhaps, will favour with further experience, as may others having knowledge of the pests.

Cooper's Black Grape (*H. S.*).—This is a very fine looking Grape, and when well grown the berries are larger than those of the Black Hamburgh, while the bunches are large enough for any purpose. It more closely resembles Gros Maroc than the Black Hamburgh, and not a few Vines that are grown as Cooper's Black are Gros Maroc. We have more than once seen Cooper's Black win the first prize in keen competitions for the best coloured and finished black Grape. The Vine is a good grower under the same conditions as the Black Hamburgh, but requires rather more room for development. The fruit is refreshing, but does not possess the Black Hamburgh flavour.

Coe's Golden Drop Plums Rusted (*I. I.*).—The microscope did not bring into view any organism, but simply the rusted skin, which is probably due to excess of iron in the soil. We had similar results under glass through syringing with iron water, and on land containing much iron the Plums were much rusted, especially in dry seasons. A good dressing of lime, 1 cwt. per rod, gave good results, indeed the Plums ceased to rust. This, however, was on land practically devoid of lime in the upper layers and surface soil. On limestone soils rusting may be lessened by top-dressing or mulching with short manure. Rusted fruits very often crack, especially in moist weather following a dry period, through the flesh increasing and the skin being rendered non-elastic by the infection.

Sulphate of Potash (*Idem*).—High quality sulphate of potash consists of 95 per cent. of sulphate of potash (K_2SO_4) the water in combination making up the article—that is, it contains no appreciable foreign elements, the total or potash (K_2O) being 51.30 per cent. Low quality sulphate of potash, according to Macadam, contains:—Moisture, 8.16; sulphate of potash, 64.34; chloride of soda, 18.43; insoluble matter, 1.21; and chloride of magnesium, 7.86 per cent; the total potash (K_2O) being 34.76 per cent; the best quality sulphate of potash, therefore, is the article you require. Possibly the chlorine of the kainit may have produced chloride of lime, and with this substance in the soil injured the roots of the Strawberries.

Utilising Quince Plants (*T. C. M.*).—The Quince trees purchased at a sale last autumn are probably of the kind used as stocks for Pears, or they may be of a variety grown for its fruit. In the latter case the trees, now planted for shelter only, should be left alone, and they will grow into a spreading hedge-like belt, and serve the purpose of shelter in a warm locality, which, with an open sunny situation, is necessary for fruit production even in the southern parts of the country, the trees seldom perfecting their fruit in northern districts. The fruit is used for making a kind of marmalade and other preserves, and for adding, in small quantities, to Apples when cooking to give briskness and increased flavour. The chief use of the Quince tree in this country is that of providing stocks whereon to graft Pears, being naturally inclined to root near the surface, also fibry, and tending to dwarf the growth of Pear trees and cause them to become earlier and more productive than on the Pear stock. All varieties of Pears, however, do not succeed on Quince stocks, hence double grafting is had recourse to in their case. This consists in working a vigorous variety of Pear on the stock and such as succeeds on it, say *Beurré d'Amanlis*, and on this graft any desired sort. Thus you may utilise the Quinces for growing Pears, cutting the trees down to about 6 inches from the ground very early in the year or before February, and graft them close to the ground in March or April, the scions being retarded by cutting before the buds start, and placing in light soil or sand on the north side of a wall or fence.

Seedling Apple Trees (*Idem*).—The year-old seedling Apple trees may be grafted in the spring about 6 inches from the ground, or such of them as are as stout or stouter than the scions. Any or all varieties of Apples will succeed on such stocks. A few good ones are, for cooking, *White Transparent*, *Pott's Seedling*, *Seaton House*, *Small's Admirable*, *Golden Spire*, and *Lane's Prince Albert*, all compact growers, with *Bramley's Seedling* and *Newton Wonder*, both free growers. Eating Apples: *Devonshire Quarrenden*, *Lady Sudeley*, *Worcester Pearmain*, *King of the Pippins*, *Cox's Orange*, *Scarlet Nonpareil*, *Braddick's Nonpareil*, and *Court Pendu Plat*, all compact or medium growers, with *Blenheim Orange* and *Gascogne's Scarlet*, both strong growers. Any of the seedling Apples not strong enough for grafting in March or April may be budded in July.

Caterpillar in Plums (*C. C. E.*).—The insect that deposited the eggs giving rise to the caterpillars found in the Victoria Plums is the Plum Tortrix, *T. nigricana*, or *Carpocapsa funebrana*. The moth is very seldom seen, being very small. The spread of wings is rather over half an inch, forewings grey clouded with darker shades, and at the hinder angle of each is a spot of ash grey, with a faint metallic lustre, surrounded by an indistinct border, in which lies a row of black dots. The larva or caterpillars are reddish above, paler below, with the head brown black, and there are a few soft hairs on the body. The caterpillars feed on the Plums during late summer and early autumn, usually one in each fruit, and next to the pit or stone. They remain in the fruit even after it has fallen, subsequently spinning a slight cocoon in which the caterpillar hibernates in a pupal state. The moth appears at the end of May or beginning of June, and soon afterwards begins to deposit eggs upon the fruit. Spraying with Paris green at the time just mentioned and searching for the cocoons in the crevices of the bark are the best preventives, for there are no remedies but destroying affected fruit. Victoria Plums are very subject to attack, several in a pound often being affected, and these having quite a normal appearance are eaten or made into jam along with the caterpillars. That is one way of ending them, but it is better to prevent them. If affected fruits are severed and examined the caterpillar formerly called "the red grub of the Plum" may be found, or numerous pellets if the creature has departed.

Diseased Strawberry Plant (J. A. S.).—The plant is suffering from what is termed the "Cauliflower disease," and is caused by stem-eelworm, *Tylenchus devastatrix*. There are also numerous threads of a fungus, and not distinguishable from the mycelial hyphae of *Fusarium solani*, which causes "sleepy disease" in Tomato plants. The plant has lost all the roots in the soil, but has produced many others from the stem out of the ground, and these are quite healthy. We should apply a dressing of two parts basic slag and one part kainit, mixed, the kainit being crushed very fine, and the mixture applied as soon as made, using $\frac{1}{2}$ lb. per square yard, and afterwards apply a good dressing of manure. It is a question, however, whether it would not be advisable to destroy the plantation and make a new one in fresh ground. All the same the land should be dressed with the mixture, or if the soil is light use bonemeal instead of the basic cinder phosphate. If you retain the Strawberries also dress with nitrate of soda, finely powdered, as soon as the plants commence growing in the spring or at the end of March, using $\frac{1}{2}$ lb. per rod.

Rust on Gloxinias (C. H. B.).—The leaf is simply rusted by the animal, technically known as *Tarsonemus gemeri*, the life history of which, so far as we know, not having been worked out. In stoves, however, the mite has little difficulty in finding food the year round on various members of the order Gesneraceae, also on Begonias, though some consider the species found on these different, and also that found on Pelargoniums. The mites certainly live over the winter, possibly on the tubers, the drying-off process being much in their favour. It is also proper to say that some persons find vegetable organisms associated with the mite, but these, according to our experience, are consequences of its presence. The tubers may be dipped in a solution of formalin, one part in 400 parts water, for about five minutes, and even the plants be sprayed with it. We have found nothing better against the pest than ordinary tobacco water. The article known as London juice being diluted with twelve times its amount of water, and sprayed on the under side of the leaves, and over all parts of the plants and house by means of an ordinary atomiser, such as used by hairdressers. The nicotine used for vapourisation, diluted with 100 parts water, applied in a similar manner, also acts well against the pests, but to be of use requires occasional repetition, similar remarks applying to the tobacco water.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (Fruits).—1, Golden Spire; 2, New Hawthornden; 3, Hoary Morning; 4, Cellini; 5, Yorkshire Beauty. Tomatoes can only be definitely named by comparison, possibly Orangefield. So many factors have a bearing upon market returns that your other question cannot be replied to. The market must be considered, the quality of the produce and the manner in which it is placed on sale, and last, but not least, prices are affected by the question as to whether a grower is sending regularly or only spasmodically. (W. C. S.).—1, Allen's Everlasting; 2, Lord Suffield; 3, Emperor Alexander; 4, Mere de Ménage. (A. B. C.).—1, Blenheim Pippin; 2, Court Pendu Plat; 3, Yorkshire Greening; 4, Keswick Codlin; 5, Gravenstein; 6, Tower of Glamis. (E. R. G.).—1, Gloria Mundi; 2, Warner's King; 3, American Mother; 4, New Northern Greening; 5, Baldwin. (J. W.).—1, Unripe and not in condition for naming; 2, Manks Codlin; 3, Lord Suffield, splendid specimen. (J. & W. B.).—The Apple is immature and cannot be identified with certainty, possibly Yorkshire Greening. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (T. F. C.).—1, Begonia Evansiana; 2, Ranunculus parviflorus; 3, send when in flower. (B. W. B.).—1, Berberis vulgaris; 2, Crataegus coccineus. (T. C. R.).—1, Allamanda Hendersoni; 2, Linaria cymbalaria; 3, Abutilon vexillarium. (T. R. B.).—Specimen insufficient, possibly Escallonia Philippiana.

TRADE CATALOGUES RECEIVED.

Barr & Sons, King Street, Covent Garden.—*Daffodils, Dutch and other Bulbs.*

H. Cannell & Sons, Swanley.—*Primulas.*

F. Dicks & Co., Deansgate, Manchester.—*Bulbs.*

E. P. Dixon & Sons, Hull.—*Trees.*

Dobie & Mason, Oak Street, Manchester.—*Bulbs.*

H. gg & Robertson, Dublin.—*Bulbs.*

J. R. Pearson & Sons, Chilwell, Notts.—*Fruit Trees and Roses.*

A. Robinson, 1A, Bishopgate Street Without.—*Bulbs.*

J. Russell, Richmond.—*Bulbs and Hardy Plants.*

The Leeds Orchid Co., Roundhay, Leeds.—*Garden Specialties.*

Robert Veitch & Sons, Exeter.—*Dutch and other Bulbs.*

Wm. Watson & Sons, Clontarf, Dublin.—*Carnations and Violas.*

COVENT GARDEN MARKET.—SEPTEMBER 6TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	20	30	Peaches, per doz.	80	60
Damsons	50	60	Pears, Californian, case...	80	60
Figs, green, per doz.	10	30	" French Williams',		
Grapes, black	06	80	86 to 56 in a case	40	50
Lemons, case	140	200	Pines, St. Michael's, each	10	60
Melons	06	16	Plums, English, per sieve	30	50
" Rock	19	26	" Californian, case...	40	80
Nectarines, per doz.	30	60			

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	10	20	Lettuce, doz.	18	20
Aubergine, per doz.	16	20	Mushrooms, lb.	06	10
Beans, $\frac{1}{2}$ sieve	26	36	Mustard and Cress, punnet	02	00
" Scarlet, sieve	26	30	Onions, bag, about 1 cwt.	40	46
Beet, Red, doz.	06	00	Parley, doz. bunches	20	40
Cabbages, per tally	70	00	Peas, per bushel	60	80
Carrots, per doz.	20	30	Potatoes, cwt.	20	50
Cauliflowers, doz.	20	30	Shallots, lb.	08	00
Celery, n-w, per bundle	19	00	Spinach, per bushel	00	40
Cucumbers, doz.	20	40	Tomatoes, per doz. lbs.	20	36
Endive, doz.	16	20	Turnips, bunch...	08	04
Herbs, bunch	08	00	Vegetable Marrows, doz.	10	16
Leeks, bunch	02	00			

Trade very quiet.

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	30	40	Marguerites, doz. bnchs.	40	60
Asparagus, Fern, bunch...	20	26	Mignonette, doz. bunches	40	60
Carnations, 12 blooms	16	26	Montbretia, per bunch	10	16
Cattleyas, per doz.	120	180	Odontoglossums	50	76
Eucharis, doz.	40	60	Pelargoniums, dozen		
Gardenias, doz.	16	26	bunches	40	60
Geranium, scarlet, doz.			Roses (indoor), doz.	20	30
bunches	40	60	" Red, doz.	10	20
Lilium Harrisii, 12 blooms	86	46	" Tea, white, doz.	16	26
" longiflorum, 12 blooms	40	60	" Yellow, doz. (Perles)	20	30
Lily of the Valley, 12 sprays	100	160	" Safrano, doz.	20	26
Maidenhair Fern, doz.			Smilax, bunch	30	40
bunches	40	60			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitis, var., doz.	60	86	Fuchsias, doz.	40	60
Aspidistra, doz.	180	86	Heliotropes, doz.	60	90
Aspidistra, specimen	150	200	Hydrangeas	60	100
Crotons, doz.	180	300	Lilium Harrisii, doz.	120	180
Dracena, var., doz.	120	300	Lilium lancifolium album	300	400
Dracena viridis, doz.	90	180	" rubrum	300	400
Erica various, doz.	800	600	Lycopodiums, doz.	30	40
Euonymus, var., doz.	60	180	Marguerite Daisy, doz.	60	80
Evergreens, var., doz.	40	180	Myrtles, doz.	60	90
Ferns, var., doz.	40	180	Palms, in var., each	10	150
" small, 100	40	80	" specimens	210	680
Ficus elastica, each	16	76	Pelargoniums, scarlet, doz.	40	60
Foliage plants, var., each	10	50			

Bedding out plants in variety from 8s. doz.



RAIFFEISEN.

WHAT a puzzler this word is! It does not indicate an organisation like that of the Fenian; it does not mean anything endangering Church or State, neither is it a new variety of twine for self-binders. It is the name of a good and worthy Rhinelander, a man who deserves the thanks of the working community of Europe. He was the first

apostle of a great financial movement, a movement that is very much and deservedly on the increase.

As far back as 1849 Herr Raiffeisen became awake to the difficulties the small cultivator experienced in the matter of raising on loan small sums of money. Money he could certainly get; but the terms were outrageous, and once in the clutches of the money lender the case became hopeless. (There have been enough revelations of late to make comment on this subject needless.)

The scheme of which he was the founder took the form of a co-operative association. The members could get small loans of money cheap, and the loans were to be applied for the furtherance of agricultural or commercial enterprise. None of the office-bearers receives any payment for his work; all the members are responsible for the liabilities of the association.

Every would-be borrower has to undergo the closest scrutiny as to his character and the nature of the security offered. In a village community everyone knows his neighbour's affairs most thoroughly, and this knowledge constitutes one of the greatest safeguards. A drunkard, a shiftless, unprincipled man, would never be allowed to become a borrower, nor even a man whom his neighbours considered deficient in proper energy.

This system has been worked on the Continent with marked success. Signor Vollembri in Italy has worked heart and soul to establish these banks, and the peasants themselves are the first to acknowledge their utility. Repayments are most punctual, and the people are becoming business-like and prompt in their undertakings, quite losing their happy-go-lucky style.

The Italian peasant has always had a hard struggle for existence. The country is poor, and the taxation very heavy. By these timely loans men have been raised from depths of poverty, and are now in comparative affluence. A man living from hand to mouth is a sorry sight. A man with a little to the fore is a very different spectacle.

In Germany we find the same pleasant state of things. Here the areas are limited, so that the individual members may be all personally known to each other. In this way, there is so much less risk of admitting unsuitable members. The Society protects itself. Its business is controlled by a committee elected by the members themselves, and this committee is supervised by an administrative council; both these bodies are elected at the annual general meeting. So that all may be sound and above board, the books are audited at stated periods by disinterested persons. All the work done in connection with the system is gratis.

Well, we turn to our own favoured land, and we are not very proud of what we see. Here are these "parlezvousing" foreigners far in advance of us, and we thought we had the pull of them in everything, especially in those things relating to our material welfare. In Ireland—poor down-trodden Ireland—we find the good work has begun. The apostle there is Horace Plunkett, and he has nothing but good to tell of the working of the system. Would that it had been set a-going in years past! He says, "There is no fear of rash investment of capital in enterprises believed to be, but not in reality, productive—the committee take good care of that. The whole community is taught the difference between borrowing to *spend* and borrowing to *make*. You have the collective wisdom of the best men in the association helping the borrower to decide whether he ought to borrow or not, and then assisting him, if only from motives of self interest, to make the loan fulfil the purposes for which it was made." Is not this comprehensive enough?

Now, then, we turn to the English apostle, Robert Yerburgh, M.P., and from him we learn what is being done in England. Curiously enough he cites instances that have come under our own notice. We have seen something of the working of one of these banks, and quite corroborate all he says. Alas! that we have only seven of these associations in England. They are situated in the counties of Kent, Lincolnshire, Norfolk, Cambridgeshire, Worcestershire, Hampshire, and Suffolk.

We were rather amused with one case of borrower and lender. The borrower was the father; the son was quite willing to lend the money through the agency of the bank, but not otherwise. We suppose the publicity of the loan insured its safety. Several cases occurred where men were taking up allotments and needed capital. A blacksmith saw an opening in the agricultural implement line, a man emerging from carpentry to carriage repairing, to these a few pounds of ready money were invaluable.

Cases could be multiplied, but there is no need to do it. The thing is working its own way steadily. We only want a few more propagandists scattered over the length and breadth of the country, and a few clear-headed business men to give the thing a fair start. There is, after all, a wonderful amount of enterprise among the rural community, but the spirit needs a little encouragement and a little capital.

Money makes the mare to go, and it crosses many a difficult bridge. There is not that incentive about a gift, and we are thankful to think our working men would not care for a gift, and it is a right and proper spirit. Anything that tends to independence should be encouraged.

Talk about state pensions and so forth, is it not better to put within reach of every man, and woman too, the means by which they may attain decent comfort for the days of old age and the heavy time of sickness? This scheme permits of a woman borrower. Sewing machines, washing apparatus, fowls, would all come under the head of suitable objects—things by which a woman might increase her capital and provide for her wants, or those of her family.

WORK ON THE HOME FARM.

A few thunder showers have not materially hindered the completion of the harvest, whilst they have done a little to encourage the root crops into renewed growth. Unfortunately the rains have been somewhat partial, and, as so often happens, the districts with the greatest need have been the least favoured.

The root crop is showing signs of improvement, and some fields may make average crops; but under the most favourable conditions there must be a great shortage of Turnips, and a 70 per cent. estimate we quite think to be an optimistic one, and such as will not be realised. The caterpillar plague is over, but has left a dreadful mark behind it. The Swedes, wounded almost unto death, can never grow into weighty and nutritious bulbs.

Farmers who have tried to provide for the root deficiency by the prompt sowing of catch crops are anxiously waiting for the germination, which cannot take place until there have been more copious rains.

Stubble ploughing is impossible, and even the cultivator works with difficulty. Rye for spring feed might be sown after the cultivator and harrowed in, but it would do better if the land were ploughed over first, so perhaps we had better wait for the rain to come, and so enable us to plough and make a good job of it.

Land intended for winter tares must be cultivated and well manured; it can then be ploughed as soon as moisture will allow, and drilled about Michaelmas. We prefer drilling, as the seed gets better distribution, and is easier to cover thoroughly. Both pigeons and rooks are very fond of tares, and are troublesome to them if sown after the stubbles have been well picked over, and before the Wheat has been put in.

Lambs keep dying by dribbles, and no wonder, for on many farms, where no special provision of tares or Cabbage has been provided, there is hardly a particle of green food for them to eat.

Hay is being freely used, and water supplied with it; this latter, perhaps, having to be carted several miles. Pastures are now almost bare, and cattle are doing little or no good. The outlook for stockowners is indeed a gloomy one. Only a growing autumn followed by a mild winter can save the situation. Now is the time to put the ram to the ewes. A Leicester breeder told us the other day that he was giving up the pure breed, and should in future use the Hampshire cross—Hampshire x Lincoln. He has been experimenting, and has found the cross-bred to realise about 5s. per head more than the pure white face, and does it in less time.

THE BEST IMPLEMENTS.—The Agricultural Society of Meaux has for several years organised contests of agricultural implements, with the result that the locality is the best tilled district in France. On a farm of 575 acres, of which in the rotation 125 are under sugar Beet, the cost of implements and machinery of all kinds was, says a contemporary, at the commencement 72 francs per acre, but has now been worked down to 52 francs.

THE AMERICAN WHEAT HARVEST.—The Chicago correspondent of the "Yorkshire Post" says:—The Wheat supply so far this year is more than 15 per cent. lower than was last year's crop. About 80 million bushels less than the average number have so far been harvested, and Minnesota is the only State that has more Wheat fields to be cut. The effect of the shortage will be felt in the stock market, and the grain merchants are preparing to raise prices.

THISTLES FOR PASTURES.—There are now in scores of pasture fields, in almost every parish in England, such a number of thistles as to seriously damage grazing grounds for cattle. Fattening cattle, more than others, are hindered from putting on flesh at the rapid rate they ought to do through the prickly weeds prevailing to such an extent. These animals are so highly fed that they will not lick round the thistles so closely as more hungry beast might do; so it is that rank grass grows up year after year, until the grazing ground gives for the most part coarse, rank herbage. Besides, the thistles at this season, being advanced in growth, prick the animals' noses, and that keeps at any rate pampered cattle at a distance. In fact, a thistly pasture is an eyesore and a disgrace to any farm, and need not be any more than a badly kept garden. Mowing will put the weeds out of sight *pro tem.*, but only persistent spudding will exterminate them.—("Rural World.")

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Journal of Horticulture.

THURSDAY, SEPTEMBER 14, 1899.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 2/6. All communications must be addressed to 2, Rose Hill Rd., Wandsworth, S.W.

THE MELON SEASON.

THE weather of the past summer has not been of an ideal nature for any garden crop, indoor or out; it certainly has not favoured Melons. Reports of indifference in flavour were numerous at the summer exhibitions this year, at any rate in the west and south of England. True some Melons have gained favourable mention, but, so far as my observations extend, these have been decidedly rare. To the grower of Melons for exhibition there are many disappointments as well as surprises in store. It often happens that a small, unappetising, and insignificant fruit defeats handsome and apparently well-ripened specimens. This makes Melon showing one of the most uncertain that the fruit grower can undertake.

In connection with this flavour test, I cannot help noting what a contrast there is between the report from the dining-room and the fruit test bearing on the quality of Melons. One often gets a commendatory mention of the Melon sent daily to the table, and occasionally special praise is given when a fruit possessing more than average quality is handed round; yet equally good specimens of the same variety when sent to a show find no favour by the judges.

I have often heard it remarked by expert growers and judges that the system of judging Melons as shown requires modifications, and I certainly agree with them. Societies which solicit exhibits from their patrons and expect them to submit to the flavour test often have a poor display, not necessarily in quantity, but in appearance, because growers, having good fruits, naturally hesitate to take them to a show where they are cut, and are consequently of no further value. To my mind a distinct loss results from the practice of following the old custom of judging by flavour. I have a firm conviction that its discontinuance would raise the status of Melon classes considerably. For confirmation of this compare the fruits in competition for flavour with those in a collection of dessert fruit. In the latter the very best fruit the grower can produce is not often good enough to satisfy his ambitions; while for cutting he will say a small one will do as well as a larger.

It is a comparatively common experience to find a fruit weighing 1 lb. placed before others of four or five times its weight. The effective comparisons between the two cannot be disputed, when placed side by side on the stage. The principle, however, has been so long continued, and has become so deeply rooted in the official mind, that it seems a hopeless case to plead for any alteration; but the change might be made experimentally if only to compare results. There is no reason why classes should not be instituted for two or three Melons, as is done with Apples, Plums, or Pears. For example, I think a class for three varieties representing white, green, and scarlet-fleshed sorts would be strongly supported if exhibitors had the assurance that the fruits would be judged by appearance, and not by flavour as decided by cutting. Some societies give prizes for Melons in pairs, and occasionally judges are allowed to use their own discretion as to the necessity of cutting and deciding by flavour.

I feel perfectly certain that, much as might be said in favour of judging by cultural merit, many readers will still maintain that the proper test of quality comes only by cutting. There always were two opinions on this point, and if it were not so there would be no need for the trouble of penning the foregoing remarks. I am convinced that the close of the exhibition season is the most fitting time for exhibitors who are interested to give their opinion of the principles of staging and judging Melons, and the Editor would, I feel sure, not only give countenance to an expression of opinion from Journal readers, but give his casting vote to the course which, from experience, he has found the better.

There is no reason why both systems cannot be adopted at any well supported show. Two open classes are often provided by societies, and sometimes not a little confusion exists in the terms of the schedule. Then, too, in addition there are special prizes given by reputable seedsmen for their own varieties. Where such a practice prevails no great effort is needed to make reform. Nor are Melon prizes of such value as to debar an extra class for fruits on the lines suggested. To some judges I am sure the change would be most welcome, for the task of tasting a quantity of badly flavoured Melons is by no means a pleasant one to perform. Many Melons are condemned at the show simply because they are either under or over ripe, and the uncertainty of the flavour test as previously intimated is such that growers do not often care to risk good fruits.

It must be admitted, however, that size is not always a criterion of excellence in flavour, but it cannot at the same time be disputed that a small Melon fails to show the same cultural merits as a large one. A fruit not more than 1 lb. will sometimes prove of richer flavour than a large one on the day of a show, but where is the comparative value between a 1 lb. and a 4 or 5 lbs. fruit for dinner or garden parties?—W. S., *Wills*.

[A good deal may be said on both sides of the question or questions introduced by our correspondent, and our readers are at liberty to express their views. It is certain that prizes have been adjudged to numbers of Melons "for flavour" that did not weigh nearly a pound, and which would have been no ornament to any dessert table. On the other hand it is equally well known that fruits of thrice the size and of good appearance have, when cut, been described by judges as positively "nasty."

Again, those whose duty and fate it has been to judge hundreds of Melons know how common it is to find fruits in the "green flesh" class with scarlet flesh, and fruits in the "scarlet flesh" class with green flesh; while occasionally they are found in both classes neither green nor scarlet but a combination of both, and the flesh of one colour behind the other in ripening. It does not seem particularly clear how these colour characteristics could be determined without cutting and looking inside.

Some judges are strongly of opinion that evident good cultivation with handsome appearance of the fruit should be recognised as meritorious, while others prefer the "flavour test" alone, and when this test is specified in the schedule they are not infrequently obliged to give the first prize, however reluctantly, to what they describe as a "scrubby little fruit." It would seem that this aspect

of the question was considered by the Board of Judges when the R.H.S. "Rules of Judging" were formulated, for we find on page 15 that neither flavour alone, regardless of size, nor size alone, regardless of flavour, is sufficient for indicating a standard of excellence, and hence the paragraph which we cite as follows:—

"*Melons*.—The fruits, which should be about 18 (and not less than 15) inches in circumference, must be cut and tasted. The flesh must be rich in flavour, melting, and juicy; the fruit thick in the edible part and thin in the rind. Scent is not a sufficient guide for determining condition and quality."

This and all the points mentioned by "W. S." are worthy of discussion. At a recent show in which prizes were offered in the usual way for scarlet and green flesh Melons in separate classes fruits with white flesh were disqualified by the Judges. Some gardeners thought they were wrong, because it is customary to admit such fruits in the green flesh class; others thought the Judges were right because the flesh was not "green," while still others considered the time had arrived when three classes should be provided for Melons—scarlet, green, and white respectively.]

AUDIT OF GRAPES AT SHREWSBURY—WITH COMMENTS.

YOUR report of the late show is so exhaustive that it is difficult to say much that is fresh about the Grapes there staged. Such an unprecedented provision was made for a display of this fruit that it has been the topic uppermost in the minds of horticulturists for some months past. With a view to providing further information to those persons who had not the privilege of seeing this grand display, I have prepared an audit of all the varieties there staged, showing how many times each was represented. The following is a complete summary of the varieties and number of bunches staged.

VARIETIES EXHIBITED.	BUNCHES.
Muscat of Alexandria	81
Black Hamburgh	65
Madresfield Court	58
Gros Maroc	49
Black Alicante	18
Foster's Seedling	17
Cooper's Black	8
Alnwick Seedling	8
Canon Hall Muscat	6
Muscat Hamburgh	6
Appley Towers	6
Buckland Sweetwater	6
Duke of Buccleuch	6
Mrs. Pince	6
Gros Colman	4
Mrs. Pearson	2
Golden Hamburgh	2
Barbarossa (Gros Guillaume)	2
Trebbiano	2
Bowood Muscat	2
Rai-in de Calabre	2
Diamond Jubilee	2
Black Duke	1
Chasselas Napoleon	1

Total number of bunches 855
Varieties.—Black, 18; white, 11. Total 24.

In the great class for twelve bunches the six exhibitors staged eighteen varieties, if Bowood Muscat and Muscat of Alexandria can be regarded as being distinct. In my opinion they are not, and should not be admitted as such, nor were they admissible according to the schedule. The eighteen varieties were as follows:—

BUNCHES
Black Hamburgh 10
Gros Maroc 10
Muscat of Alexandria 8
Madresfield Court 8
Muscat Hamburgh 4
Mrs. Pince 4
Alnwick Seedling 4
Duke of Buccleuch 4
Cooper's Black 2
Golden Hamburgh 2
Appley Towers 2
Barbarossa (Gros Guillaume) 2
Trebbiano 2
Bowood Muscat 2
Gros Colman 2
Black Alicante 2
Foster's Seedling 2
Canon Hall Muscat 2

From the foregoing list it will be seen that the great class brought together a thorough representation of all the best varieties of Grapes.

The only two notable absentees are Buckland Sweetwater and Lady Downe's. Both, however, have serious faults from an exhibitor's point of view, therefore it is not surprising that both were unrepresented.

Black Hamburgh.—Admirers of this old favourite will be pleased to see it occupy such a favourable position in not only the champion class but throughout the show generally. No less than sixty-five bunches of it were staged, including naturally many excellent examples. The finest came from Mr. Kirk, and were included in his second prize exhibit in the champion class. The bunches ranged from 3 lbs. to 3½ lbs. in weight, and showed high culture in every way.

Muscat of Alexandria.—This favourite amongst white Grapes occupied the leading position of any Grape, not only in point of numbers but in quality also. One bunch staged by Mr. Lunt required to be only a trifle larger in the berry to render it a perfect model. To find any Grape represented eighty-one times in a possible 355 speaks volumes for the variety and for the skill of exhibitors in staging it so meritoriously.

In the class for two bunches of any white Muscat there were ten entries. Amongst these only one exhibit was seen that could be termed really bad. The majority were excellent representations of this favourite. Mr. Lunt's first prize winning bunches were long and tapering, with medium sized berries of exquisite colour. The second prize stand, from Mr. Nield, carried larger bunches and berries, but less shapely, and somewhat lacking that amber tint of colour that is so pleasing to lovers of this Grape.

Madresfield Court.—This fine Grape occupied a high position throughout the Show. One of the bunches staged by Mr. Kirk was adjudged only one quarter point below maximum. This estimate goes strongly to show the high opinion expressed of it by the Judges—all competent men. The weight of bunch was about 3½ lbs.; the berries were simply magnificent, and thinned to a degree of nicety, which goes a long way to render the appearance of a bunch of Grapes of any variety as near perfection as is practically attainable.

Gros Maroc.—This was represented by forty-nine examples, many of the bunches bearing enormous berries, which as a rule were heavily laden with "bloom." Perhaps the finest examples of this Grape in the exhibition were the pair of bunches sent by Mr. Shingler, Melton Constable Gardens, Norfolk, and which won the premier prize in the class for that variety, or of Gros Colman. The bunches were a trifle small for the variety perhaps, but the berries were magnificent. These bunches were cut from a Vine carrying sixty bunches, therefore were all the more remarkable. Gros Maroc is fast taking the place of Gros Colman as an exhibition Grape; it is found to colour so much easier, and is superior to it in point of flavour.

Black Alicante.—This was staged eighteen times—a distinct decline, not only in number but in quality also. Neither the bunches nor the berries was of full size in any exhibit. Cultivators are now alive to the deficiency in flavour of this Grape.

Foster's Seedling.—Staged seventeen times was a proof of its ease in production, but as to its quality the less said of it the better. For an amateur, or those who require a heavy crop of white Grapes early in the season, this variety is worthy of attention, and that is all I can say for it.

Cooper's Black.—Whatever it may be, this Grape was grandly represented by Mr. Lunt in his prize-winning collection; a little more time would have improved the colour close to the stalks, and the removal of a berry here and there in thinning would have given the shapely bunches an even better appearance than they possessed. In weight the bunches were from 3½ to 4 lbs.

Canon Hall Muscat.—This noble Grape was better shown than is often the case. Mr. Goodacre, in his first prize for four bunches of white, having very fine examples of it.

Muscat Hamburgh.—This richly favoured Grape was well represented by Mr. Lunt and Mr. Goodacre. As a rule this variety is better grown in Scotland than elsewhere. The sport from it, *Lady Hastings*, will no doubt oust its parent from popular favour, as possessing its flavour in the fullest degree, and at the same time has the noble appearance of Madresfield Court, while it also "sets" with ease.

Duke of Buccleuch.—This beautiful but fickle Grape was staged in six bunches, the best coming from Mr. Kirk. These, however, did not weigh more than 2½ lbs. The berries were a trifle uneven, but good in colour.

Mrs. Pince.—In no instance was this good Grape staged near perfection, and, as usual, the berries lacked colour.

Gros Colman.—This once popular exhibition Grape was only staged twice, and then quite of second-rate merit.

Golden Hamburgh.—This was only staged once, by Mr. Kirk, the bunches weighing about 3 lbs. each, with good berries and colour. I note that your report gives this as Buckland Sweetwater, which is an error.

From the audit it will be seen that black Grapes were represented by thirteen, and white by eleven varieties; a fair proportion.

The class that impressed me as being especially strong in numbers and quality was that for four bunches of black varieties. There were eleven competitors, staging in all eight varieties. Mr. Kirk depended upon those sterling favourites Black Hamburgh and Madresfield Court, and, presenting both in grand condition, had no difficulty in securing the leading award.

Taken altogether the Grape classes provided in themselves an exhibit worthy of the place, and from an educational point of view were alone worthy of a long journey to see. In the composition of some of the classes I think an improvement might be made, giving more scope, adding variety, and consequently imparting greater interest. I may possibly make a few suggestions on the subject in a future issue.—EDWIN MOLYNEUX.

DALKEITH AND ITS NEW GARDENER.

THE historic home of the Duke of Buccleuch, with its great extent of glass structures, has long been famed in the gardening world, and as a matter of fact the chieftainship of the gardens is regarded as one of the prizes which many an accomplished horticulturist would be proud to win.



FIG. 45.—MR. JAMES WHYTOK.

Our announcement last week that Mr. James Whytock had been selected out of an enormous number of applicants as the successor of the late Mr. Dunn appears to have come as a surprise to not a few of our readers, and seems to have been accepted by some of them with a certain amount of reserve. We have so much confidence in the accuracy of the statement that we venture to publish a portrait of Mr. Whytock, as it is only natural that a large number of gardeners should like to see what manner of man he is. He has certainly not taken any particular pains to keep himself "before the public"; possibly he may have felt that the surroundings of Earl Fitzwilliam's beautiful seat at Coollartin, with the requirements of the family, demanded his whole attention; and if his services had not been appreciated over a period of twenty years he could not have been so highly and effectively recommended for the position to which he is appointed.

We have reason to believe that other capable and worthy men had the strongest of recommendations from personages of almost the highest rank in the kingdom, but the Duke, after summoning a selected number of candidates to Dalkeith, decided that the combination of qualifications possessed by Mr. Whytock peculiarly fitted him for the varied cultural duties and other requirements that are desired to be met by the head of the gardening establishment. With these the new gardener, who is a Scotsman, is not unacquainted, for he won credit and approval under the late Mr. William Thomson at Dalkeith several years ago, and we have no doubt that the past fame of the gardens will be safe in his keeping.



HYBRID TEAS.

I RECOLLECT speaking with a leading Rose grower, some ten or fifteen years ago, when his remark was "The Hybrid Tea is the coming Rose." And so it has proved. Mr. George Paul's Cheshunt Hybrid began the series. With what interest it was viewed. I remember carrying home in triumph from Cheshunt a 10s. 6d. pot plant as soon as it was in commerce, which gave me at once half a dozen very excellent buds. It is now rather over-ridden as a climber, for Reine Marie Henriette, the red Gloire, whose profuseness of flower on a south wall, where it enjoys itself, is something really marvellous; but for fragrance and lovely cherry carmine Cheshunt Hybrid is still unapproached, and perhaps unapproachable. But now how this class has grown, something owing, no doubt, to the wholesale manner in which La France, Captain Christy, Gloire Lyonnaise, and other once H.P.'s were tumbled into it, very properly, I admit, but for a while somewhat perplexingly. And what a grand array of noted names stands in each catalogue under the H.T. heading!

I am hardly enough in the Rose world now to keep up with all the new ones, but many names occur at once. Kaiserin A. Victoria, that grand solid white; Lady Mary Fitzwilliam, always good, even if the plant is hardly visible; Grace Darling, a unique colour; and Marquis Litta, a splendid red. Gustave Regis, again, a very ideal buttonhole bloom, though its long, pointed, canary yellow buds show it but a semi-double when the sun has laid hold of it. Caroline Testout is perhaps the loveliest example of a soft pink with which I am acquainted.

Then there is Mrs. W. J. Grant, the very Helen of Roses. On her return from that unfortunate American escapade she very properly dropped the "Belle Siebriecht," and returned, like her predecessor, to domestic relations, just as Helen of Troy is reproduced, a fair penitent, in the Odyssey. This I really admire above any other Rose, perhaps, bearing Maréchal Niel; "bright rosy pink, large fully pointed flower," is only a feeble attempt at a declaration of her manifold charms.

I draw attention to this class of Roses now that the planting season is coming on, in order that growers may be induced to give them a bed to themselves. It is an intermediate class, and a most delightful one, between the sterner H.P.'s and the more feminine and delicate Teas and Noisettes.—A. C.

MIXED BORDERS.

Our mixed borders are now so satisfying in their beauty, fragrance, and utility, coupled with the enchantment they give to that somewhat prosaic part, the vegetable garden, that one would fain describe them, even should imitation by others be not expedient. 'Tis a medley, surely. Roses, herbaceous plants, annuals, biennials, and bedding stock shoulder to shoulder with a few old-fashioned sweet-scented shrubby plants lining each side of the walk which longitudinally bisects the kitchen garden. Box bordered, of course; neatest and most natural of all the edgings, we could not forego it, although fat beasts lurk therein; and alleys at the back outlined with Thrift, such alleys facilitating working operations and providing a way for the wheelbarrow.

Since early spring the borders have increased in beauty and interest until now the climax is reached in their autumnal glory; hence those who come solely on business into the garden are wont to find pleasure in a lingering inspection on either hand. A line of many-coloured hybrid Primroses, planted last autumn parallel with the Box edging, made a brave display during spring when autumn-rooted Violas were dotted through them alternately to wax in beauty as their neighbours waned in blossom. Having, with these dots and lines composing our floral margin, paid tribute to the ruling passion, formality enters no further within our borders. True, some endeavour was made at planting time to relegate the taller to the background, and perennial Sunflowers, Michaelmas Daisies, with others of that ilk, look down on lesser things from the rear rank, Roses and more moderate growers filling the middle portion; yet through these, again, have risen clumps of Sweet Peas, while Delphiniums have aspired to prominence and attained it with spikes of matchless blue.

Filling? Really the filling has been going on the season through with all sorts and conditions of plants, some of which, be it remarked, to show the error of our ways, would be tolerated in no respectable hardy border. For instance, after the bedding was completed surplus "Geraniums," Asters, anything in fact, were planted in any available space; yet there is room, and biennials in the way of Canterbury Bells,

Antirrhinums, and East Lothian Stocks raised elsewhere are being transplanted at odd times in odd places with an eye to the future. All this is only as a tithe of what is evident to the eye in our borders, or revealed by the sense of smell. Fain would we retrace our steps and hark back to early summer, when the claims of Cactus Dahlias were not forgotten, and the noble father of the family, Juarez, now flaunts over others in paternal pride. Aye, even farther back should we go, when Mignonette, Love-in-a-mist, Coreopsis of kinds, the floriferous Malope grandiflora, among whose rich hued blossoms has appeared a chaste white form, the combination of colour being suggestive of purple and fine linen, and other annuals were sown.

I write not from the sun-coached South, where I am told that mixed borders are burnt out, so that in not a few dinginess is the prevailing feature. Let us hope the report is exaggerated, and if it is not might I ask if such borders have been soundly prepared, enriched and replenished occasionally? In my experience nothing gives a better return for thorough cultivation and intelligent management than a mixed border.—WESTERNER.

FROM WEST TO EAST.

(Concluded from page 207.)

Of the gardens on the east coast there are what may be termed both ancient and modern. The newest of note is that of Lord Battersea at Overstrand, about two miles from Cromer. His lordship's marine residence is known as The Pleasance, or Pleasance—to give pleasure. In past times the term signified a secluded part of a garden, and Ruskin refers to "The Pleasances of old Elizabethan homes," a sentence which exactly applies in the present case, for the residence suggests a quaint old Elizabethan house with considerable modern extensions, but the ancient characteristics admirably retained. The garden is essentially a garden of pleasure—a garden of mounds and dells, of twirling lawns and twisting grassy glades, through umbragous masses of trees and shrubs; of secluded nooks, Ferny banks and alpine colonies; of stumps and Ivies and rambling Roses; of floral arcades—tunnels of beauty and fragrance; of pergolas, paved with flagstones of all shapes and sizes made smooth by millions of traversing feet, for this quaint, firm, clean flooring was brought from an old London street. We have thus memories of the city below, with Roses, Honeysuckles, Vitises, Ampelopeses and other ramblers above, and the sea within earshot, though from this point invisible, as the pergolas are in the kitchen garden, which is thus made a pleasant retreat on the border of, and in harmony with, the thirty acres of pleasure grounds.

What a startling change in a little time! What an exemplification of the power of the combined forces of love, wealth, skill, and labour! Ten years ago a sandy wind-swept waste, but now a furnished garden of pleasure; furnished, but not finished. Important work is near, and almost pressing—the thinning of trees, so prodigally planted, to prevent first a wild tangle, the sure precursor of naked lower branches, when the charm of seclusion will be a thing of the past. There is, however, happily no reason to doubt that Lord Battersea and his able and active gardener, Mr. Clements, will be equal to the interesting work before them, and which undoubtedly demands taste, judgment, and skill, or caution with decisive action for its satisfactory accomplishment. What is written here is no description of this remarkable garden, as no details can be given of, for instance, the long arcade of Laburnums, with its golden firmament in the spring; of the masses of Sea Buckthorn, with myriads of bright berries, as if piled on each other; of thrifty fruit trees and other items, including splendid bushes of Fuchsia Riccartoni, 15 feet across; but only a mere passing glance is given of some predominating features in just one of those gardens which the visitor who sees once would like to see again.

Passing to older gardens, Cromer Hall (Mrs. Cabbell's) nestling in the woods, could only be viewed from the cliffs above. The junior must have been indulging in telegraphy in a clandestine sort of way, or why should Mr. Allan of Gunton (with his son, Lord Hillingdon's gardener), have swooped down upon us in our den? He tempted the youngster in some such way as this, "You must come over and see the old place; my trap will meet the train—a change from the sea will do you good. We have not much to show you; but we have a few trees, a bit of fruit, two or three Tomatoes, a pleasure ground in a drawing-room, and one or two Asparagus beds. You shall then be driven across country to see Mr. Shingler and his Grapes." The young man fell, and our hours in the east were numbered.

Gunton Park extends over a thousand acres, is well wooded, and presents many fine features; but we had first to see the Thorpe Oak, which is not in it, but near the nursery. It is a truly noble tree, and has weathered the storms of centuries, yet appears to possess the vigour of youth. The "invalid," who is something of a forester, and has to

conduct felling and selling, had so far recovered as to be able to mentally measure and value the tree. He looked it up and down, then after seeming to study his boots for a moment, sententiously remarked, "700 feet." Query, "the value?" Answer, "£70 at least, might fetch £100." Then spoke Mr. Allan—"the last time it was measured the result was 680 feet, and an offer was made of £100." The mental measurer quietly shook hands with himself, and we passed on. It may be of advantage to young gardeners to learn to measure timber. The old one, who is wielding the pen, found the acquirement serviceable forty years ago. Mr. Allan has all sorts of trees and shrubs in the estate nursery, also splendidly fruited plants of Tomatoes. He had been intercrossing Nisbet's Victoria, Conference, and another for producing long racemes of medium sized and saleable fruit. He has succeeded, for one cluster contained sixteen, and he thinks the variety is worthy of its name—Up-to-Date.

It may be in the recollection of some readers that the front part of Lord Suffield's fine mansion was destroyed by fire some years ago. The divisional walls of the burnt-out rooms were cleared away; the external walls, being practically uninjured, still stand, enclosing a capacious square. This was planted with shrubs, in beds, and the inside of the walls with Ivy, which now covers them. The effect is, to say the least, unusual, and may be unique; but one hesitates to employ a word that is so commonly misused. If this instance of forming a miniature pleasure ground with hardy shrubs within the walls of a mansion is without an equal, it is then, and only then, unique. The uninjured part of the mansion is very large, and tenanted, Lord Suffield occupying his marine residence at Cromer. There is a large terrace flower garden at Gunton, not formally planted, but rendered attractive and enjoyable in an informal way with inexpensive flowers. Mr. Allan has improved the pleasure grounds considerably from time to time, as he can spare men in the winter. He is evidently a utilitarian and economiser, and makes the most of resources.

The kitchen garden is old but good, and the glass structures not of the most modern type. Splendid Muscat and Gros Maroc Grapes were seen, and every house and frame stocked with something useful. Tomatoes occupied much space, and the new Melon previously mentioned was fruiting freely in long pits. The new Strawberry Lady Suffield, which Mr. Allan regards as his best, was producing runners freely to meet the already considerable demand for plants. Pears on walls were bearing bountiful crops, with scarcely an exception, though the blossoms had not been protected. In the open the most profitable variety of fruit this year was Rivers' Czar Plum, every tree bearing an abundant crop of fine marketable fruit, of greater value than the crops of all other sorts put together. Asparagus is finely grown at Gunton. The soil is well adapted to it, while care and skill are exercised in culture. Connover's Colossal and Argenteuil are the varieties, the commoner forms being discarded. Single one-year-old plants—not clusters of seedlings—are planted 3 feet apart on the level, in rows 4 feet asunder. The top growth of three-year-old plants is wonderful, each cluster of growths forming a large bush, and the bushes quite meet each other. The difference between the two varieties is this—Connover's Colossal "stools out" by far the more freely, producing thrice the number of growths that are afforded by the Argenteuil; but these are much the stronger, 7 feet high, or 2 feet higher than the other. This, the Argenteuil, is Mr. Allan's favourite, because of the splendid heads it yields in the spring, though Connover's Colossal throws up a greater number of smaller size. The distinctions indicated are clearly marked in the two plantations, and the pollen-bearing plants are, as a rule, notably stronger than the seed bearers, and may be expected to afford the finer produce for cutting. This will be carefully noted, for Mr. Allan likes to know how to obtain the best of everything. He has not much to learn in the art of entertaining his friends, and sending them away satisfied.

A drive of five or six miles across country to Melton Constable suggested that here if anywhere farmers should be prosperous. Yards were full of ricks of new and old hay, as well as of corn, for some of last year's were visible, while not a blank in Swedish Turnip fields could be seen. All were full, and so level that the rows could not be seen. How different in the south with its bare and patchy fields. Barley stubbles were also green with "seeds," for the four-course system of cropping seems to be in operation in the district. We approach Lord Hastings' fine demesne, and enter the spacious park under the arch of the "Tower" Lodge, for from the arch rises a lofty tower which forms a striking feature, and in its way may be almost said to be "unique." Mr. Shingler was evidently on the look out, and met us with a quiet, yet genuine, gardener's greeting. On the way to the gardens and Grapes he happened to mention "cricket." The junior, an advanced exponent of the "art," pricked up his ears—"Did you say cricket, have you a match on, who, where?" All in a

breath. "Eton and Harrow over in the park there; his lordship is entertaining Eton, and Sir Samuel Hoare, Harrow," was the quiet response. It was enough, gardens and Grapes must wait. If you have an invalid to look after you must let him have his own way; and wait they did till it was a case of a rush and a glance all the way through and onward to the station.

The first glance was across the fine flower garden, in which large mixed beds of stately plants show the more effectively in contrast with brilliant masses of Zonal Pelargoniums. Sutton's miniature Sunflower is employed with great advantage in mixtures. A long border, brilliant with double Zinnias (Dickson's), and a background of the Sunflower, was remarkably fine. Plants of the last named raised and grown sturdily in pots, had formed dwarf floriferous bushes, the main stem near the ground being as thick as a man's thumb. There had been no sowing too early and growing the plants spindly, or such telling specimens could not have been obtained. We rush for the Grapes. They are grown as was described in the *Journal of Horticulture* of October 20th last year. The black Grapes are simply grand. The Muscats have, through some occult reason, unfortunately collapsed, Mr. Shingler suspects through a chill, and this may be the cause, as they are the worst at the cooler end of a house that certainly would be better with a more generous supply of piping. As is generally known, Mr. Shingler's sport from Muscat Hamburg—Lady Hastings—has passed into the hands of Messrs. Paul & Sons, Cheshunt. It has a general resemblance to Madresfield Court, but is quite distinct from it and all others, and is of the first quality, as it ought to be, considering its origin. Such Alicante, Gros Maroc, and Gros Colmans are rarely seen, while a seedling from Lady Hastings, Gros Colman bids fair to surpass them all. It is as fine as any Gros Colman, which it resembles, keeps as long, and is of superior quality. It should be sent to the R.H.S. in April or May. Up-to-Date Tomatoes in 8-inch pots were trained as an arch through the centre of a long span-roofed house, the average weight of fruit per plant being 14 lbs.

We hear a good deal about Grape growing in the natural soil. When they succeed it is because the soil is naturally suitable. At Melton Constable it is not, and some Grapes grown in it are dismally lacking in both size and quality as compared with magnificent samples of the same varieties growing in prepared soil in the same house. But everybody who tries to grow Grapes is not a William Shingler. No small amount of judgment is required in preparing Vine borders and skill in their management afterwards. These requisites are embodied in the person of the widely experienced, extremely modest, and genuine gardener at Melton Constable, and, as the junior remarked, it was a "treat" to see his work with black Grapes. What he will do with the Muscats remains to be seen. The short holiday in the East is at an end, and the "invalid" has gone like a giant refreshed to the estate that he manages so well; and none the worse for the "changes"—by rail and road, with a sniff of the sea, is—THE SENIOR.

RHUS TYPHINA.

FROM the number of specimens met with in gardens this species appears to be the most popular of the genus to planters in general, and, while there are at least half a dozen species, which in their own particular style are quite as beautiful, this, by its hardiness and happy way of adapting itself to circumstances, will not be ousted from its position for a considerable time at any rate. It is a North American species, and is usually met with as a small tree, 8 to 12 and occasionally 16 or more feet high, with a flat spreading head equalling in diameter and sometimes exceeding the height.

When growing in this way the pinnate leaves are about 1 foot long and the inflorescences from 4 to 6 inches; it is not, however, when grown in this way that its full value as an ornamental plant is seen. A good way of growing it is to put young plants out in beds or masses planted thinly, rich soil being used. These plants should be cut back each spring to within an eye or two of the old wood; they will then, early in the summer, make long strong growths, with leaves 2 to 2½ feet long, and carry their terminal inflorescences to a height of 16 inches above the foliage. The inflorescences are followed by a mass of fruit thickly covered with dark red hairs, which keeps its colour until late in the autumn. In addition to being ornamental during summer, the leaves colour most brilliantly in autumn, making a fine show for several weeks. It should be stated that there is both a male and female form, and to get the fruit both should be planted together; the male form is met often with as *viridiflora*. It is a paler coloured plant in leaves and flowers than the female, and, if anything, colours more brilliantly in autumn. When grown as described, the large, graceful, luxuriant foliage, surmounted with the stiff upright panicles of red fruit, make it an admirable plant for lawns or sub-tropical gardens.

Anyone who has an old plant can quickly raise a stock by cutting up pieces of the roots into lengths of 4 inches and inserting them in the open ground in spring. These will grow and make good plants during the summer.—W. D.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—SEPTEMBER 12TH.

THE Drill Hall on Tuesday was very well filled with a diversified exhibition, of which the main feature was the Cactus Dahlias. The vegetables from Mr. E. Beckett thoroughly deserved the gold medal that was awarded. Fruit was also well shown.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair); with the Rev. W. Wilks and Messrs. J. Cheal, W. Poupert, M. Gleeson, W. Pope, A. H. Pearson, Alex. Dean, S. Mortimer, G. T. Miles, G. Woodward, G. Wythes, R. Fife, G. Bunyard, and G. Reynolds.

THE LATE MR. T. FRANCIS RIVERS.—At the meeting held on the 28th ult., the Committee sent a vote of condolence to Mrs. Rivers in her great loss. On the present occasion a letter from Mrs. Rivers expressing the family's thanks to the Committee was read, and it was decided it should be placed on the minutes.

Corn Cobs were sent by Mr. G. Wythes, gardener to the Duke of Northumberland, Brentford, and included excellent examples of Early Cory, Farquhar's First Crop, Perry's Hybrid, Manhattan, and Crosby's Early Sweet, the latter in fine form. Mr. J. W. Coles, gardener to F. Walker, Esq., Balcombe, arranged an excellent collection of fruit, which included Walburton Admirable and Exquisite Peaches, Violette Hative and Putnam Orange Nectarines, Plums Magnum Bonum and Pond's Seedling, Morello Cherries, Lord Grosvenor, The Queen, and Kerry Pippin Apples, with a good dish of Red Currants.

A collection of fruit trees in pots came from Messrs. Wm. Paul and Son, Waltham Cross, which included well grown and fruited trees of Potts' Seedling, Cellini, Prince Albert, Gloria Mundi, Prasad's Nonesuch, and Mabbitt's Pearmain; also a collection of forty-four dishes of Apples, chief of which were Worcester Pearmain, Annie Elizabeth, Wealthy, Bismarck, Lady Henniker, Washington, Emperor Alexander, Warner's King, and Potts' Seedling.

Mr. Wm. Taylor, gardener to C. Bayer, Esq., Forest Hill, presented a good collection of fruit, not a single dish below par. The Grapes included Gros Maroc, Muscat of Alexandria, Alnwick Seedling, Foster's Seedling, Directeur Tisserand, and Black Alicante; good examples of Princess of Wales and Mr. Gladstone Peaches. The Plums were good, Golden Drop, Transparent Gage, Primette, Late Gage, and Late Orange, with fine dishes of Williams' Bon Chrétien Pears, Apples, Cox's Pomona, Cox's Orange Pippin, Prasad's Nonesuch, and King of Tompkin's County, while Tomatoes, Frogmore Selected, Peachblow, Polegate, Tewkesbury Dessert, and Golden Jubilee completed the display.

A bank of fruiting branches of Tomatoes came from Messrs. Jas. Veitch & Sons, Ltd., Chelsea, and, judging from the crop on each stem, the trial grounds must be most instructive at the present time. The fruits were not only large, but well coloured. The range in variety will be seen, when they range from the old Conqueror to Duke of York, Chemin Rouge, Acquisition, Ham Green (a grand specimen), Golden Jubilee (excellent in size and colour), a good smooth type of Trophy, and Frogmore Selected.

Collection of Melons and seed Cucumbers were displayed by Mr. S. Mortimer, Farnham. The Melons were excellent, and included Sutton's Royal Favourite, Perfection, Hero of Lockinge, the latter in quantity. Mr. W. Miller, gardener to Lord Foley, Esher, staged a box of Princess of Wales Peaches of large size, arranged in a bed of foliage and Rosa rugosa berries and acorns, which gave the exhibit a pleasing effect. Several single dishes of fruit were sent for examination by the Committee, and passed.

THE SHERWOOD CUP.

It will be remembered at one of the early summer meetings Mr. E. Beckett, gardener to Lord Aldenham, Aldenham House, Elstree, Herts, contributed a magnificent collection of vegetables for the above cup. He was then the only exhibitor, as was he again on Tuesday, when he brought the necessary second exhibit. Unfortunately by an error Mr. Beckett brought his exhibit just a fortnight too soon, as September 26th was the date fixed of the second show. This, however, does not detract from the excellence of the produce staged, which taken altogether and making some slight allowance for the season, was undoubtedly one of the finest exhibits of vegetables that has ever been shown at the Drill Hall. It cannot count for the cup, but as Mr. Beckett was the only exhibitor last time he may make his position perfectly secure by bringing a smaller collection on the 26th inst. The exhibit comprised forty-seven sorts, making the balance of 100 dishes allowed by the conditions of the competition.

The individual vegetables comprised Celery Standard Bearer, Sutton's Gem, and Prizetaker. White, all in grand form; Tomatoes Dunedin Favourite, Golden Jubilee, Polegate, and Perfection, firm and of good colour; Beans Veitch's Climbing French, Best of All Runner, Canadian Wonder, and Ne Plus Ultra Runner, all young and tender; Lettuce Giant White, Cos and Endive White Batavian, fresh and crisp; Carrots Veitch's Scarlet Model and Sutton's new Intermediate in perfect condition; Marrows Long Ribbed White, Moore's Cream, Perfection, Pen-y-byd, and Prince Albert, as they should be for table; Potatoes Satisfaction, Windsor Castle, and Goldfinger, clean and shallow in eye; Capricious Golden Dawn and Long Red; Onions The Wildsmith, Cow Nut, and Ailsa Craig, solid and heavy; Kales Purple Plume and Dwarf Extra Curled; Savoy Giant Green, in splendid form; Cauliflower Extra Early Autumn Giant, good in colour and size; Cabbage Carter's Red Pickling; Brussels Sprouts Holborn Favourite, of medium size and great solidity; Parsnip Maltese, grand; Pea Autocrat, excellent for the time of year; Artichoke Green Globe; Beet Pragnell's Exhibition;

Cucumbers Beckett's Ideal and Beckett's Achievement, the former being particularly praiseworthy; Leek Holborn Model, grand; with Mushrooms, Salsify, Scorzónera, Turnip Prizetaker, Indian Corn (Zea caragua) and Rosette Colewort.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), and Messrs. H. B. May, R. Dean, J. Hudson, J. F. McLeod, C. E. Pearson, T. Peck, W. Bain, J. W. Barr, J. D. Pawle, Jas. Walker, H. J. Cutbush, E. H. Jenkins, Chas. Blick, E. T. Cook, D. B. Crane, E. Beckett, George Paul, and Ed. Mawley.

A semicircular group of Chrysanthemums from Mr. J. H. Witty, Nunhead Cemetery, spoke of autumn. Of course the plants were not carrying large flowers, but they were of medium size and bright colours, such as are valuable for decoration. Messrs. W. Wells & Co., Earlswood, sent an interesting collection of early-flowering Chrysanthemums, comprising a considerable number of the foremost varieties. Hardy flowers were contributed by Messrs. Barr & Sons, Covent Garden. All those now in flower were noted as being in capital condition, especially Michaelmas Daisy, Phloxes, and Sunflowers. Messrs. F. Sander & Co., St. Albans, exhibited a number of plants of *Acalypha hispida* (Sanderi), interspersed with well-flowered plants of *Dendrobium formosum giganteum*.

A most attractive exhibit was that from Messrs. W. Paul & Son, Waltham Cross. The stand was wholly composed of Roses, which for the time of the year were splendid. Nothing more charming for bedding could be desired than coralline, for which purpose too the new Alexandra is unsurpassed, if not unsurpassable, of its colour. Then, too, there were white Maman Cochet, Queen Mab, W. A. Richardson, Souvenir de Catherine Guillot, Madame Chedane Guinoiseau, Perle d'Or, Marie Van Houtte, Mrs. W. J. Grant, Madame Abel Chatenay, La France, Maman Cochet, Empress Alexandra of Russia, Madame de Watteville, and many others, in fact the collection comprised about eighty varieties. Messrs. J. Peed and Sons, Norwood, sent a group of splendidly flowered groups of plants of the white Michaelmas Daisy Mrs. W. Peeters.

Mr. J. Hudson, gardener to Messrs. de Rothschild, Gunnersbury House, sent half a score of plants *Acalypha hispida* (Sanderi). They were about 6 feet high, and carried an extraordinary number of "tails." Mr. Hudson sent also plants of a sport from *Begonia Gloire de Lorraine*. In habit the plant is more compact than the parent, and the flowers are decidedly larger though slightly paler in colour. It has been named Mrs. Leopold de Rothschild, and there can be little doubt but that it will become popular. Mr. G. Prince, Oxford, contributed a stand and some boxes of Tea Roses. The flowers were of the foremost quality, being stout in petal, rich in colour, and of good size. Amongst the more popular varieties were The Bride, Marie Van Houtte, Maman Cochet, Mrs. R. G. Sharman Crawford, Kaiserin Augusta Victoria, Mrs. J. Laing, Niphetos, Madame Cusin, and Comtesse de Nadaillac. Of newer varieties Mr. Prince showed Souvenir de Catherine Guillot, Rainbow, the white La France, and Souvenir de J. B. Guillot, which, though somewhat thin in the flowers, must be grown for its splendid crimson-red colour.

A very representative exhibit of hardy flowers was arranged by Messrs. Paul & Son, Old Nurseries, Cheshunt. The flowers were shown in large bunches, and made an imposing display. Amongst others may be noted Roses Marie Van Houtte, Kaiserin Augusta Victoria, L'Idéal, Papa Gontier, Madame Falcot, Madame Pernet, Maman Cochet, Viscountess Folkestone, with several Michaelmas Daisies, Heleniums, Harpaliums, Scabiosa caucasica, Senecio pulcher, Anemone japonica alba in variety, Cyclamen hederifolium and h. album, Coreopsis, Colechicums, single Asters, Morina longifolia, Lilliums, and Phloxes. Messrs. W. Cutbush & Son, Highgate, showed some immense heads of *Hydrangea paniculata grandiflora*.

Mr. John Green (Hobbies, Ltd.), Dereham, staged a large and choice display of Cactus Dahlias; the pyramids of Red Rover, Green's White, and Zephyr were simply charming. Other varieties of the true type were Erasmus, Hogarth, Eclair, Dryden, Arachne, Exquisite, Vixen, Stella, and Golden Plover. Messrs. T. S. Ware, Ltd., Tottenham, staged a huge bank of Cactus and Pompon Dahlias arranged with Grasses and Bamboos. The most notable were Capstan, Keynes' White, Arachne, Night, Mrs. C. Turner, Captain Broad, Standard Bearer, Radiance, Britannia, Mary Service, and Frebrand in the Cactus section, while the Pompons were represented by good sprays of Eurydice, Tommy Keith, Stanley Ford, Whisper, Little Sweetheart, Captain Boyton, Mabel, and Jubilee.

Mr. Jas. Stredwick, St. Leonards-on-Sea, exhibited a box of seedling Cactus Dahlias, all of which were of the true type. The most noteworthy were Mayor Tuppenny, Augustus Rare, Autumn Queen, Mrs. Sanders, and Uncle Tom. Messrs. J. Peed & Sons, Norwood, also contributed to the display of Dahlias by staging a collection of Cactus, decorative, and Pompon varieties. The Cactus section included John Roach, Glorious, Beatrice, Chas. Woodbridge, and Starfish, while the Pompon section was represented by typical bunches of such well-known kinds as Little Sweetheart, Eurydice, Arthur West, Ariel, E. F. Junker, Nerissa, and Elegans. A box of seedling single Dahlias were staged by Mr. M. V. Seale, Vine Nurseries, Sevenoaks. They were mostly of good type and distinct. The best were Nellie Nicholson, Edie Obelin, Alice Nicholson, and Gaiety Girl.

Messrs. Jones & Sons, Shrewsbury, presented a display of Cactus, Pompon, and Show Dahlias. The Cactus varieties were certainly the best feature. Large groups of Starfish, Arachne, Keynes' White, Island Queen, and Bridesmaid were conspicuous; while the best blooms arranged in boxes were Arachne, Mary Service, Countess of Lonsdale, Magnificent, Fusilier, Cycle, and Eileen Palliser. Messrs. Keynes, Williams & Co., Salisbury staged a box of new Cactus Dahlias. The

new break to be seen in Progenitor and Wisdom attracted much attention. Other good seedlings were Innovation, Loyalty, Cornucopia, Mrs. Carter Page, and Mrs. J. J. Crowe.

Messrs. J. Cheal & Sons, Crawley, exhibited a collection of Cactus, Pompon single, and single Cactus varieties, the whole forming a pretty display. The best of the Cactus varieties were Mary Service, Mrs. Dickson, Debonnair, Countess of Lonsdale, and Ranji. The Pommions were of excellent quality, entirely devoid of any coarseness. The best were Douglas, Ernest Harper, Mars, Whisper, Nerissa, and Iris. The singles were represented by Jack Sheppard, Tommy, The Bride, Puck, Eric, Donna Casilda, and Colombine. The Brentwood raiser, Mr. J. T. West, exhibited a collection of Cactus and Pompon varieties, arranged in sprays, with a row of boards containing Show and Fancy varieties in front. The best Cactus varieties were Mrs. J. J. Crowe, Violet Cornish, Mrs. Carter Page, Mrs. Bernard Parker, and Mrs. Murray Ind. The best Pommions were Elsie, Arthur West, Bacchus, Little Jack, and Tommy Keith. The Shows and Fancies were somewhat uneven, but good flowers were staged of Maud Fellowes, R. T. Rawlings, Hercules, Wm. Rawlings, Edmund Boston, Mr. C. Noyes, and Ethel Brittain.

A beautiful collection of cut Japanese Maples was staged in a box by Messrs. Thos. Cripps & Son, Tunbridge Wells, also beautiful specimens of *Retinospora obtusa aurea* Crippsi, and the older form. A collection of *Sonerilas* was staged by Messrs. Sander & Co., St. Albans; the varieties Silver King, Mrs. M. Moore, Mrs. H. Walters, and Lady Miller were bright, and the variation beautiful.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, J. Douglas, H. M. Pollett, H. Little, de Barri Crawshaw, A. H. Smee, J. G. Fowler, J. T. Gabriel, H. J. Chapman, W. H. Young, E. Hill, T. W. Bond, J. Jaques, and C. J. Lucas.

Orchids were less numerous than has been the case for some considerable time, there not being one collection shown. The exhibits comprised mainly single plants from individual growers. Mr. W. H. Tindale, gardener to E. Duckworth, Esq., Flixton, Manchester, sent *Cattleya Luddemanniana alba*, while Mr. T. W. Bond, gardener to C. L. Ingram, Esq., Elstead, *Laelio-Cattleya Callistoglossa ignescens*. Mr. F. W. Moore showed from Glasnevin *Cryptophoranthus hypodiscus*, and Mr. F. Hardy, Tyntesfield, Ashton-on-Mersey, a *Sophro-Cattleya* from *Sophrontitis grandiflora* and *Cattleya Acklandiae*. Mr. W. Walters, gardener to Col. R. W. Shipway, Chiswick, exhibited *Cattleya Hardyana* Grove House variety, and Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Dorking, *Cypripedium niveum maculatum*. *Laelio-Cattleya callistoglossa*, Leon's var., came from H. S. Leon, Esq., Blotchley Park, while Mons. E. Zollinger-Jenny, Zurich, sent *Cattleya O'Brieniana* and *Vanda Sanderiana*; Mr. G. Bristow, gardener to Mrs. Temple, Tunbridge Wells, contributing *Cattleya Gaskelliana* Temple's var.

MEDALS.—Fruit Committee.—Gold medal, Mr. E. Beckett; silver-gilt Knightian medal, Messrs. W. Paul & Son; silver Knightian medals, Mr. W. Taylor and J. Veitch & Sons; silver Banksian medals to Messrs. S. Mortimer, G. Woodward, and J. Cole. Floral Committee.—Silver-gilt Flora medal, Messrs. W. Paul & Son; silver Flora medals, Messrs. J. Green, J. H. Witty, G. Prince, and T. S. Ware; silver-gilt Banksian medal, Messrs. J. Cheal & Sons; silver Banksian medals, Messrs. J. Hudson, Jones & Son, J. Peed & Sons, Paul & Son, and J. T. West; a bronze Flora medal to Messrs. Barr & Sons.

CERTIFICATES AND AWARDS OF MERIT.

Apple Venus Pippin (W. J. Godfrey).—An excellent soft-fleshed early dessert Apple. It is rather over medium size, eye half open, with broad recurving segments. The stalk is long and inserted in a shallow cavity. The colour is pale lemon yellow (award of merit).

Apple Ben's Red (G. Bunyard & Co.).—A flat Apple of very dark red colour. The half-open eye is set in a wide shallow cavity. The stalk is very short and deeply inserted. The flesh is firm and white in colour. Should prove of value for market (award of merit).

Apple T. A. Knight (C. Rose).—A grand Apple from a cross between Peasgood's Nonesuch and Cox's Orange Pippin, and it is quite intermediate. It is considerably above the size of Cox's Orange Pippin, and has all the excellence of that popular variety in colour. The eye is large, open, set in a shallow even basin; the stalk is short and stout. The colour is crimson over the whole surface save for a patch of green on the shaded side. On the sun side it is rich crimson, with darker splashes and numerous green russet dots (award of merit).

Cucumber Achievement (E. Beckett).—A beautiful variety. The fruits are of good average length, slightly spiny, and of deep green colour (award of merit).

Beonia Mrs. Leopold de Rothschild (J. Hudson).—A sport from Gloire de Lorraine, with a more compact habit than the parent; the flowers are larger and paler in colour (award of merit).

Cattleya Luddemanniana alba (H. H. Tindale).—A true albino save for the soft yellow on the side lobes of the throat (first-class certificate).

Cattleya Kienastiana aurea (T. W. Bond).—A handsome hybrid from a cross between *C. Luddemanniana* and *C. Dowiana aurea*. The sepals and petals are purple rose, as is the margin of the lip; the front lobe has a patch of crimson purple. The centre and throat is golden veined crimson (award of merit).

Dahlia Green's White (J. Green).—A pure white Cactus variety of true form; a good deep flower (award of merit).

Dahlia Red Rover (J. Green).—A fine Cactus variety, red, with a true petal, and a gigantic flower (award of merit).

Dahlia Major Weston (J. Stredwick).—A velvety crimson Cactus variety of good form (award of merit).

Dahlia Mayor Tuppenny (J. Stredwick).—Colour reddish amber with the petals shading to yellow in the centre, of perfect form (award of merit).

Dahlia Augustus Hare (J. Stredwick).—A Cactus variety of good type, colour deep orange crimson (award of merit).

Dahlia Maurice J. Walsh (J. Stredwick).—A yellow variety, the outer petals deep amber, good type (award of merit).

Dahlia Uncle Tom (J. Stredwick).—Another Cactus variety, deep maroon crimson, long well twisted petals (award of merit).

Dahlia Innovation (Keynes, Williams & Co.).—A Cactus variety, red with tips of the petals white, a distinct variety (award of merit).

Dahlia Emperor (Keynes, Williams & Co.).—Another Cactus of good type and petal, colour magenta (award of merit).

Dahlia odestone (Keynes, Williams & Co.).—Brick red, of true Cactus type (award of merit).

Dahlia Mrs. J. J. Crowe (J. T. West and Keynes, Williams & Co.).—A canary yellow, with good length of petal and depth of flower; an acquisition (award of merit).

Dahlia Cheerfulness (Keynes, Williams & Co.).—A good Pompon, yellow, heavily edged with bright red (award of merit).

Dahlia Veronica (J. Cheal & Son).—A single variety, red at the base with yellow tips (award of merit).

Dahlia Daisy (J. Cheal & Son).—A single striped variety of a nondescript colour (award of merit).

Dahlia Flame (J. Cheal & Son).—A single with yellow ground colour suffused and splashed with red (award of merit).

Dahlia Empress (St. Pierre Harris).—A fancy variety, a deep lilac, flaked and splashed with crimson (award of merit).

Dahlia Edie Obkin (M. V. Seale).—A good single heliotrope, shading to a yellow centre (award of merit).

Dahlia Nellie Nicholson (M. V. Seale).—A single white edged with a distinct band of rosy red.

Eucharis burfordensis (W. Bain).—This is from a cross between *E. Maestral* and *Sanderi*. The colour is pure white, and the flowers tubular (first-class certificate).

Laelio-Cattleya callistoglossa Leon's var. (H. S. Leon).—The dark velvety crimson lip is superb. The sepals and petals are intense rose purple (award of merit).

Retinospora obtusa aurea Crippsi (J. Cripps & Son).—A delightful Conifer, freer in habit than the type. A beautiful golden form (first-class certificate).

Rosa Corallina (W. Paul & Son).—A bedding Tea variety; a rosy salmon of good form, and evidently free flowering. The flowers vary very much in colour, that described being half open (award of merit).

LIVERPOOL NOTES.

SUCCESSFUL PARSLEY GROWING.

ACCIDENTS will happen to most people, but it is not always that good comes of them, as in the case narrated by Mr. Cromwell of Cleveley, Allerton. It was told at the time the Leeds Paxton Society visited Liverpool. Mr. Ranger, who accompanied the party from Aigburth, happened to ask Mr. Cromwell how the Parsley was succeeding, and we were at once shown a long row of beautiful curled leaves growing on the rough gravel walk on the north side of a hedge. It happened in this wise. The venerable old hand in charge of the kitchen garden had been sent to a part of the garden to sow Parsley, and in passing along the walk the packet got overturned. No notice was taken at the time, but shortly a crop of luxuriant Parsley was discerned, and it was allowed to develop, ultimately proving of great benefit through the winter.

GOLDEN VARIEGATED PRIVET.

When seen against the green leaved varieties, the two varieties of variegated Privet look extremely handsome, and if judiciously planted give a light and rich effect seldom got by most other small shrubs. Many people are afraid to plant, thinking it of weakly constitution, and not able to withstand cold or smoky districts. I have not found it so, but, on the contrary, it has flourished equally well with the commoner kinds. In Liverpool it has been seen in good condition in the centre of the city, and with the long spell of drought has been quite able to hold its own. Whilst not growing quite so rapidly as some kinds, it is well worth the attention of those about to plant. The variety *marginatum robustum aureum* is vigorous, but the rich golden variegation of the variety *elegantissimum* makes it first favourite.

CHELTEMHAM GREEN-TOP BEET.

It is surprising to find the amount of prejudice that exists against this grand Beet because of its foliage alone; indeed, I have heard people go so far as to say that they would not give it room. All I can say is, that it will be many years before the best of gardeners will cease to cultivate it. Not only is it quick in growth, but its shapely form, combined with good colour and flavour when cooked, must always keep it to the front.

GLADIOLUS CHILDSI.

Once again is this fine strain of *Gladiolus* asserting itself in all its beauty, and the great advance in colour in mixed seedlings alone is more than apparent, the named varieties being of the most perfect form and colour, and it is quite safe to predict a future for them such as few of our bulbous plants have attained. The ordinary varieties of *gandavensis* look small as compared with the giant type.—R. P. R.



RECENT WEATHER IN LONDON.—Though a very little rain fell in London on Sunday morning, the past few days have been fine and seasonable. The evening of Sunday and the morning of Monday were quite chilly, but it has since been appreciably warmer. Wednesday opened dull and cool.

GARDENING APPOINTMENTS.—Mr. F. Lewis, who for the past four years has been foreman to Mr. Bardney, Osmaston Manor, Derby, has been appointed head gardener to Sir Charles Phillips, Picton Castle, Pembrokehire, and entered upon his duties on September 4th. Mr. Thomas Hill, plant foreman with Mr. J. C. McPherson at Londesborough Park, Market Weighton, Yorks. has been appointed head gardener to W. H. Aykroyd, Esq., Cliffe Hill, Lightcliffe, Bradford. Mr. C. Fielder, gardener to the late Lady Howard de Walden at Malvern, has been appointed head gardener to Mrs. Burns, North Mymms Park, Hatfield. Mr. Thomas Glassey, for some time foreman in Park Hatch Gardens, has been appointed gardener to T. N. Graham, Esq., Northhanger, Godalming.

HESSLE GARDENERS' SOCIETY.—The members of the above Society held their seventh annual general meeting at the Parish School Room. The meeting, which was well attended, was presided over by Mr. G. Wilson, Swanland Manor. The Secretary, Mr. A. Coutts, read a very excellent report of the past session, which has been one of the most successful the Society has ever held. Its membership has considerably increased, and the financial condition was most satisfactory, showing a balance in hand of £7 2s. 3d. Decorative and essay competitions will be held during the coming session, under gardeners and foremen being eligible.—J. F. D., Yorks.

SHREWSBURY SHOW.—Messrs. W. Clibran & Son write:—"Kindly allow us to draw your attention to an omission in your report of our exhibit at the recent show at Shrewsbury. We were awarded a silver medal for our group of Celosias, also a silver medal for our collection of Crotons, and, in addition, three certificates of merit for the following new Crotons—Mrs. Clibran, Pride of Oldfield, and Golden Chain. In your brief report of Dublin Show you do not mention the large display of cut herbaceous flowers, new and choice Carnations, and a large collection of foliage and hardy trees and shrubs that we contributed." [We are pleased to supplement the brief note that was sent to us on the Dublin Show; also to make good the omission in the almost overwhelming show at Shrewsbury.]

THE DUCHESS OF YORK IN DERBYSHIRE.—A correspondent writes:—"Mr. Fred. Orton, who was foreman under Mr. Bardney at Osmaston Manor for six years, and two years ago was appointed head gardener at Longford Hall, the residence of the Hon. H. J. Coke, has had the pleasure of doing the whole of the decorations in the village and the Hall during their Royal Highness' visit to Longford. The visit was rather a long one in a private place, and while staying there H.R.H. went to Dovedale, Haddon Hall, Chatsworth, and the lovely Osmaston Manor, with each of which H.R.H. was delighted. Our old correspondent, Mr. Bardney, had the pleasure of showing Her Royal Highness over the Manor and gardens at Osmaston, even into his own new house, which has been recently built, and also the contemplated new Rose garden. Sir Peter Walker, Bart., unfortunately was in Scotland, or there can be no doubt a grand reception would have been accorded to the Royal visitor."

VEGETABLE PRIZES.—The provision of a sum of £12 for an ordinary collection of vegetables at Birmingham next November is probably the highest sum that has been yet offered as a prize under similar circumstances. It may lead to a great competition. Generally only prizes for vegetables, especially those offered by the trade, are relatively better than are those offered for fruits, but are far more easily grown. But the favourite of the trade is the Onion. It is interesting, though not so very pleasant, to see far bigger prizes in cash offered for six, nine, or twelve of these bulbs, than are offered for collections of choice fruits. Still, to the trade there is far more money in the Onions than in the fruits. Onions are, indeed, just now the idols of the seed trade and the pets of the gardener. They are marvellous in bulk and in form, no doubt, but they are only Onions after all, or one vegetable out of a score of others every bit as serviceable.—A. KINGSTON.

CYPRIPEDIUM JEANETTE.—Messrs. Charlesworth & Co., Heaton, Bradford, write: "Your correspondent Mr. J. Barker, in his notes on page 192, mentions that he believes *Cypripedium Jeanette* (nivium x *Leeanum*) to have been raised in the gardens of C. H. Palmer, Esq., of Trowbridge. This, however, is not the case, as the hybrid was raised and flowered in our nursery."

AMERICAN FRUIT AT PARIS.—The U.S. Commission to the Paris Exposition of 1900 hopes for a good exhibit representing American horticulture, and is doing what it can to encourage this. Fruit growers, truck farmers, seedsmen, and nurserymen are invited to contribute to this exhibit illustrations of such horticultural features as will be of general interest. Handsome cases will be constructed by the Commission, in which mounted photographs will be shown in convenient portfolios for inspection by the juries and the public.—("American Agriculturist.")

FOREST FIRES IN FRANCE.—Reuter's telegrams of the 11th inst. inform the "Daily News" that several acres of the Forêt des Maures, near Cannes, have been destroyed by a forest fire; also that a great fire has been raging for three days along the forest-covered slopes of the Suniane, Munet, and Pilon du Roi Hills, and all efforts to check it have hitherto been unavailing. It now extends over a distance of ten miles. The Mayor of Marseilles is on the spot, superintending operations for the protection of a number of country residences, which are threatened. The flames, fanned by a strong wind, are still spreading.

FINISHING APPLES AND PEARS.—I am in the habit during July and August of cutting back luxuriant growths and shortening branches, and in some cases wholly removing shoots that are unnecessary. This gives a shape to my trees and concentrates the sap into the proper channels, which has the effect of rapidly increasing the size, quality, and colour of the fruit, as compared with those not so judiciously treated. I note this specially in Louise Bonne of Jersey, Williams' Bon Chrétien, and Beurré Superfin among Pears; and Warner's King, Emperor Alexander, and Gladstone among Apples. I assume the principle applies to most varieties. If any reader has a doubt of the matter I would recommend him to try it, and report the result.—W. J. MURPHY, Clonmel.

VEGETARIANISM.—Speaking at the Vegetarian Exhibition in London the other day, the Rev. J. W. Horsley, Vicar of St. Peter's, Walworth, said the products of the exhibition are mainly food products, but there are to be seen vegetarian boots, stockings, gloves, and corsets. Perhaps this seems to go rather too far, but the vegetarian must not leave a single inconsistency for the enemy to attack. So he clothes his feet in vegetable shoes—no one could tell the difference from leather—his hands in vegetable gloves, his body in vegetable shirts, and his head in a vegetable hat. Thus equipped he sits down to a different vegetable every day in the year, his table is lighted by candles without a trace of animal matter in them; and afterwards he can wash himself with a pure vegetable soap.

FLAVOUR IN MELONS.—It was recently declared that a large root area was needful to enable Melon plants to produce well-flavoured fruits. I have seen so many good Melons grown in limited root areas that I could not at all adopt the idea. Melons suffer in absence of flavour so very much more from—first, excess of growth, the shoots not being properly thinned, and, second, from the harm done to leafage so commonly by spider. Where root room is restricted proper feeding and abundant waterings more than compensate for lack of root area. I have just tasted a fine fruit of Hero of Lockinge, grown with scores of others on plants 20 inches apart, in a trough 20 inches wide and 6 inches deep, yet the fruit was the best flavoured I have tasted this season. Coarse growth in Melon plants is very detrimental to the production of good flavour.—A. D.

GRAPE DIAMOND JUBILEE.—Messrs. D. & W. Buchanan send from the Forth Vineyards, Kippen, Stirling, berries of their new black Grape, which appears to be regarded with high approval by Scottish gardeners, and they rank amongst the best growers and judges in the world. Samples of Black Alicante and Alnwick Seedling grown alongside Diamond Jubilee were sent for comparison, but the new Grape was much larger and of decidedly better quality than either. The berries are somewhat oval shaped, or rather long and widest across the top next the stalk, dense black in colour and fleshy. The skin is thick, and the Grape should in consequence be a good traveller. It is regarded in the north as a market Grape of great promise, and was awarded a first-class certificate at the Glasgow Show. It may be expected that it will find its way to London for examination by the R.H.S. Committee before the season is over.

— **ONE TREE HILL.**—We learn from a contemporary that it has been decided—against the hopes of the dwellers around—that this favourite spot is private property, and that the golf club is entitled to possession. As streets of houses are being built in this locality, it behoves those desirous of keeping open a fine landscape and recreation ground to bestir themselves, so as to secure from the builder one more fine open space for South London.

— **STEVENS' AUCTION ROOMS.**—This heading has long been familiar to readers of the horticultural journals. Mr. J. C. Stevens informs us that he has taken into partnership Mr. D. Pell Smith, who for some years, and until recently, held a responsible position with Messrs. Veitch & Sons, nurserymen, Chelsea. It is intended that the horticultural branch of the business shall receive more particular attention, while sales or valuations for probate and legacy duty or arbitration will continue to have the same careful and prompt attention as heretofore. The practical knowledge of Mr. Smith, and his close identification with horticulture, coupled with his natural urbanity, should be a source of strength to the firm, which has been established close upon 140 years.

— **PRIZES FOR GRAPES.**—One result of the valuable cash prizes offered at Shrewsbury in the great Grape class is that Grape growers generally are dissatisfied with the very moderate sums offered for them in other places. One friend, writing about the Shrewsbury Grapes, thinks that offering £5 only as a first prize for twelve bunches at the Crystal Palace is far too low, and does not repay for long journeys and three or four days from home. That is no doubt true. We have seen in so many directions costs or prices or values go up that it is no wonder if the horticultural exhibitor is a little disaffected. For after all there is great risk in fruit showing, because the products are so perishable; and to find that whilst only £5 are offered as a first prize for twelve bunches of fine Grapes, produced only after exceptional efforts, when double the sum is offered as a first for thirty-six *Chrysanthemums*, flowers that anyone can grow, is rather exasperating.—A. D.

— **POTATO WINDSOR CASTLE.**—I saved a large quantity of seed of this fine Potato for field planting last season, but so far I am not at all satisfied with the appearance of the plants. As I have to grow my field Potatoes on a piece of ground that is only under ordinary field culture I seldom look for the best results; but Windsor Castle, according to my experience, requires good culture. It is not the season that is at fault, for there have been many worse than the present one, and I have a first-rate crop of it in the garden. The real fact of the matter is that the soil is not properly cultivated, and unless it is growers will be wise to leave this fine variety alone for field culture. There is a great difficulty in getting farm bailiffs to properly cultivate the soil for this crop. They think probably that what is good enough for Wheat and Turnips is good enough for Potatoes; but this is a great mistake. Ploughing a piece of foul ground and dropping the sets in every other row seems to be the custom, so it is small wonder the returns are poor. When the soil is ridged and the ridges split with a double plough it is not quite so bad, as the soil is more deeply stirred, but the ridges should be cut in autumn. Scab and other evils follow the addition of fresh manure to the trenches, so the soil should be in good heart previously.—R.

— **A GROWL ABOUT THE SHREWSBURY SHOW.**—After reading the glowing account of the great Show in your columns, I have been induced to forward you a few lines about the Show as I found it. I journeyed on the 22nd ult. from the extreme west of Surrey to a town in the Midlands, having for my principal object a visit to the Shrewsbury Show. I stayed at the Midland town on the 23rd, and eventually, on the 24th, took train to Shrewsbury. On visiting the Show the inspection of exhibits was most interesting, but the dust was suffocating. The air was charged with dust to its fullest capacity, and everything was covered. The loveliest, most exquisite, and most superb exhibits in the large plant tent were thick with dust, in fact everything alike was covered with it, and the many thousands of people in their endeavour to see the finest exhibits the best skill in the country can produce, were forced to fill their lungs with dust. Surely such a state of things might have been prevented at the expense of two or three men with water cans or other appliances for damping the gangways, and made the Show alike pleasant for visitors, exhibitors, and exhibits.—H. O. ETHERINGTON.—[It will be conceded that this is a dusty sort of letter. It is, however, inserted in accordance with the established custom of giving both sides of the question. Our reporters were there on the first day, when all was clean, bright, and beautiful. Whether it is practicable to prevent nearly 40,000 people kicking up a dust on a particularly dry day is a question for the show authorities to determine. They are equal to most things at Shrewsbury.]

— **UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.**—The annual dinner of the above Society will take place at the Holborn Restaurant, High Holborn, W.C., on Thursday, October 5th, at 6.30 P.M. W. Y. Baker, Esq., will preside.

— **TOMATOES GROWING ON A SEA BEACH.**—An interesting and probably unique find has been made at Whitburn, a small fishing village a few miles north of Sunderland. Upon the beach, just above high-water mark, there has been found a patch of Tomato plants. They are strong and healthy and full of blossom. What is even more surprising than their growing in such a situation, is that although growing among the sand and shingle, and facing the north-east, the plants have borne fruit. Most of this, as might be expected, is hard and green; but some is ripe, and the largest specimen, 2 inches in diameter, was of a rich red colour.—("Daily Mail.")

— **ACCIDENT AT A HORTICULTURAL EXHIBITION.**—As Dr. Farquharson, M.P., West Aberdeenshire, was engaged in presenting the prizes to the successful competitors at the Aboyné Horticultural Exhibition recently, the platform on which he and a number of ladies and gentlemen stood collapsed. The doctor escaped with a slight injury to his knee, and the Marquis of Huntly saved himself by springing off the erection. Dr. Arthur Farquharson and several ladies, however, were pitched to the ground, and somewhat shaken and bruised, while the suffering from alarm and shock was considerable. A number of valuable plants and a grand piano were much damaged.

— **AUGUST WEATHER AT HODSOCK PRIORY, WORKSOP.**—Mean temperature, 62.3° + 3.2°; maximum in the screen, 87.8° on the 25th; minimum in the screen, 41.6° on the 11th; minimum on the grass, 34° on the 11th. Sunshine, 217 hours, or 48 per cent. of the possible duration; difference from the average + 74. Rainfall, 0.85 inch; difference from the average - 1.53. Rain fell on nine days. Maximum fall, 0.41 inch on the 31st. Rainfall from January 1st, 13.53 inches; difference from the average - 2.84 inches. Rain less than any of the last twenty-three years. Mean temperature higher than any except 1893, though in that year the days were not so warm. There was more sunshine than in any of the last eighteen years.—J. MALLENDER.

— **POLYGONUM BALDSCHUANICUM.**—The handful of flowers of this species which were exhibited at the Drill Hall, on August 29th, gave one only a meagre idea of what a beautiful plant it is. At Kew it is grown under two different methods. In a border in the herbaceous ground it was tied to stakes to give it a start, and then allowed to have its own way. Under these conditions it has made a mass 7 to 8 feet high and 6 feet through, and is now perfectly covered with its pretty white flowers and young fruits, with here and there older fruits which have taken on the pink tinge that comes with age. In another part of the gardens it was planted at the foot of a thinly furnished Conifer, and allowed to grow over it until it is now about 15 feet high. It has branched freely but not sufficiently to hide the dark green leaves of its support. Now, when the flowers are at their best, a very effective picture is made, which from a distance gives one the impression that the tree is covered with snow. It is without doubt a valuable plant for autumn work, and is almost sure to be largely grown in the near future.—K.

— **METEOROLOGICAL OBSERVATIONS AT CHISWICK.**—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.	
		At 9 A.M.		Day.	Night	Rain.	At 1-ft. deep.	At 2-ft. deep.		At 4-ft. deep.
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1890.										
September.										
Sunday .. 3	W.	deg. 61.6	deg. 56.7	deg. 73.1	deg. 44.0	—	deg. 61.7	deg. 63.2	deg. 61.9	deg. 37.3
Monday .. 4	S. S. E.	69.9	61.1	73.8	46.9	—	62.3	62.9	61.7	39.9
Tuesday .. 5	E. S. E.	70.0	63.9	86.3	54.5	—	63.9	63.1	61.5	48.5
Wednesday 6	E. N. E.	71.6	65.2	73.1	38.4	0.44	66.7	63.5	61.5	51.9
Thursday .. 7	E. N. E.	64.1	63.3	73.0	62.3	0.07	65.1	63.7	61.5	62.2
Friday .. 8	W. N. W.	65.5	62.6	74.7	57.5	—	64.7	63.5	61.5	51.9
Saturday .. 9	N. N. W.	60.2	53.0	67.5	54.4	—	64.6	63.7	61.5	50.5
MEANS ..		66.2	60.8	75.2	54.0	Total 0.51	64.1	63.4	61.6	48.3

For the most part the weather has been dull and misty. The temperature rose to 86.3° on the 5th, and was succeeded by a heavy thunderstorm on the 6th.



HOUSING CHRYSANTHEMUMS AND OTHER PLANTS.

FAST flies the season of the year; the glorious summer with its Indian sunshine is once more left behind, and the early days of autumn are with us. Still sunny are they, though the nights are cold and dewy, and ere long a watchful eye will be needed to note and prepare for threatening frosts, which are ever ready to steal upon us unawares, and leave havoc if not ruin behind. It behoves us, therefore, to have as far as possible everything in readiness for housing plants quickly when they are no longer safe in the open air. Much can be done during the next fortnight in the way of preparing houses for the reception of plants, and a clear idea should be formed as to the position most suitable for the various stocks, so that when the work of housing is carried out it can be done methodically, instead of through want of a plan of operation—jumbling the plants together, and afterwards spending much valuable time in rearrangement.

An early vinery is usually a suitable structure in which to place Chrysanthemums, and although the housing of them in such quarters is often not beneficial for the Vines, because the borders get in too sodden a state, few gardens have sufficient space to allow them to discontinue the practice. The wood of early Vines should now be hard and ripe, and the shoots may safely be shortened back to within four or five eyes of their base; this will admit sufficient light to prevent the Chrysanthemums from becoming unduly drawn before the few leaves left begin to fall.

Where there is plenty of head room for the plants it is an excellent plan to erect a temporary staging of boards a few feet above the border, as a free circulation of air is then insured to the surface of the soil, which is thus kept sweet and in a suitable condition for the roots. Even vineries in which the Grapes are still hanging have sometimes to be filled with Chrysanthemums, but in such instances it is necessary to judiciously shorten the laterals, dealing the most severely with those not carrying a bunch. If the plants are then arranged thinly neither crop need suffer greatly; it is one of those compromises which gardeners continually have to be making, though they would prefer not to do so. Last autumn I saw a good example of what may be accomplished in this direction, for at Coton House, Rugby, where Mr. Chandler had fine Muscats and grand Chrysanthemums in the same house, both of which won the highest honours at several exhibitions.

Tomato houses are invariably filled with Chrysanthemums after the summer crop is cleared, but it often happens that large quantities of fruits are hanging just at the time the Chrysanthemums need housing. Another compromise can in such cases be adopted, when the Tomatoes are trained to the roof. If the majority of the fruits are on the point of colouring, although there are no actual signs of it, the bottom leaves can be entirely cut away and the greater portion of those near the top; plenty of light is then admitted, and a good position secured for early flowering Chrysanthemums. Abundance of air throughout the day, a little at night, and fire heat in dull weather are conditions which suit the Tomatoes, and also Chrysanthemums expanding their flowers. In other houses the Tomatoes may be ready for clearing out completely, and the structures may be filled with Chrysanthemums or other plants.

In such cases I like to thoroughly wash walls, woodwork, and glass, not only to make all clean in appearance, but also to remove any disease spores which may have found a resting place. In plant houses Fuchsias past their best may be set in the open air; several degrees of frost will not injure them, but, on the contrary, help to insure wood ripening. Tuberous Begonias may be placed in cold frames, and Coleus and plants of a similar nature, which have done good service during the summer, be destroyed. When the above matters are attended to, and plants in other structures re-arranged to make the most of space, the work of housing from the open air becomes a pleasure, because it can be conducted with orderly dispatch.

Callas and Eupatoriums are damaged by frosts more quickly than the majority of winter flowering plants, and these should therefore receive attention first. If they have been planted out they ought to be lifted and potted at once. If placed in a shady position and kept syringed several times daily they quickly recover from the check received through lifting, and are ready for placing under glass towards the end of the present month. Camellias and Azaleas should also be placed in the houses as soon as convenient, for although a few degrees of frost will not injure them, we often get checking cold rains at this season, which are inimical to their welfare, and, moreover, if such things are dealt with early, more time is allowed for the removal of big batches of plants when the "rush comes."

Early flowering Chrysanthemums, such as *Mad. Desgrange*, Lady

Fitzwygram, and *Mytchett White*, are now just unfolding their buds, and need placing under glass to secure untarnished flowers, but for midseason varieties the last week in September is generally early enough to perform such work. That particular week is, however, a critical one, and not many years ago thousands of plants were ruined on the 24th. Bearing this in mind after the first warning—which generally comes in the shape of a slight frost—it is well to house the bulk of the plants, except the late ones; these I like to leave in the open air till the buds are visible, for if taken in too early many of the shoots do not flower, and others are weak on the stem. Of course some means of protection must be afforded; a rough framework formed over them, and covered at night with canvas answers well, or the plants may be placed against a wall, and covered with canvas fastened to poles; with this little attention the plants are made safe, and a long succession of flowers obtained.—H. D.

CLERODENDRON TRICHOTOMUM.

THOUGH this cannot be placed in the first rank of hardy shrubs, still it is worthy of a place in any garden in the warmer parts of England where it can obtain the sunshine necessary for its proper development. The hot, dry summers of the past few years have suited it admirably, and it is now flowering splendidly. It requires a warm, sheltered position, to enable it to thoroughly ripen its wood, for though it will stand an ordinary winter, in so far that it is not killed by frost, still the wood—which is rather soft—is liable to be cut back by severe weather. It succeeds best if the lower branches are gradually cut away, when it will form a small tree or large shrub 10 to 15 feet high, and as much in diameter.

The star-shaped flowers which are borne in axillary clusters near the ends of the branches, are about an inch across, pure white, and when removed from the conspicuous red calyx have a certain resemblance to those of the *Jessamine*. They are also sweetly scented, but the leaves and branches, when bruised, have the peculiarly unpleasant odour of many of the *Solanaceae*, though *Clerodendron* is a *Verbenaceae* plant. The leaves are opposite, dull-green in colour, 6 to 8 inches long, by about 4 inches wide, and are covered with short, greyish hairs on both surfaces. On the upper side of the petiole these hairs are of a reddish colour.

It can easily be increased by detaching the suckers which are thrown up from the roots, or by cuttings of half-ripened wood placed in slight bottom heat and kept shaded. It is a native of China and Japan.—C.

[A magnificent branch of *Clerodendron trichotomum* (fig. 46) was recently shown at the Drill Hall by Messrs. J. Veitch & Sons, Ltd.]

A STATIONMASTER'S GARDEN.

THOSE who are accustomed to railway travelling during the summer months will often notice the fine display of flowers to be seen at many of our country stations. Stationmasters on some lines take great interest in their gardens, and vie with one another as to which can make the best display. Some of the railway companies themselves offer prizes in certain districts for the best flower gardens and decorated stations. In other cases I believe prizes are given by some of our larger nurserymen, who themselves supply seeds.

In this note, however, it is not flower gardens that I wish to bring before the notice of your readers, but a stationmaster's vegetable or kitchen garden. We hear a great deal from time to time about the floral displays, but very little about the growing of vegetables. Nevertheless, the latter we must admit is the more practical part of gardening. A short time ago I was judging cottage gardens, the one in question being amongst them. In this garden the crops were of more than ordinary merit; but as my time was limited, and it also being a very wet day, I could not get much information from the owner at the time. Being in the neighbourhood again shortly afterwards, however, and having a little time to spare, I called upon him, and had a second look round his garden. In the course of conversation I learned that he had a special liking for the seeds he obtained from Messrs. Sutton & Sons, and Messrs. Dobbie's. All the most important kind of vegetables are grown for exhibition, including Potatoes, Peas, Winter and Spring Onions, Carrots, Parsnips, Beets, Celery, Leeks, Vegetable Marrows, and Tomatoes.

Great attention is given to growing spring Onions—indeed, he takes pride in producing fine bulbs. These are grown in the ordinary way for exhibition—sown in January, pricked off into boxes as soon as ready, 2 or 3 inches apart; kept gently growing, as near the glass as possible, until the end of March; they are then transferred to a cold frame and gradually hardened, at the same time giving all the air and light possible. In April or May, according to the weather, they are planted out. The variety grown is the well-known Cranston's Excelsior. Six bulbs, that secured a first prize in the open class at a local show, weighed 9 lbs., one bulb measuring 15 inches in circumference. The following week at a large show, with strong competition, he carried off the first prizes both in the open and the cottagers' classes.

Celery and Leeks are grown in the ordinary way in trenches, and generously treated, collars being used in both cases; Dobbie's Champion Leek is the favourite, the varieties of Celery being Dobbie's Selected Red

and Invincible White. Carrots and Parsnips are grown in prepared soil; large deep holes are made with a crowbar, these are then firmly filled in with the soil, and two or three seeds sown in each, and are reduced to one as soon as it can be determined which is likely to make the best plant. As a rule the best roots are obtained by this method, but the Carrots that obtained prizes this season were grown in the ordinary way, being cleaner and better roots. Sutton's New Red Intermediate is the favourite Carrot. The Parsnips were particularly good, being clean, straight, and good shaped; and the same may be said about Beetroot. The best Cabbages I have seen this year were in this garden, both white and red. Of the former Winningstadt is a great favourite; this is a well-known exhibition variety. Vegetable Marrows are grown in quantity on large

During the winter the greenhouse is occupied principally with bedding plants, and sometimes a few Chrysanthemums are grown. In the spring it is useful for raising annuals, and also such stock as Leeks and Celery.

Now we have noticed the good things in the garden, and how they are grown, it may be as well to record the success they have met with on the exhibition tables. At a show held in the village in which he resides, the first week in August no less than thirty-one prizes were won. In the classes open to residents in the village only, the following is the list. Cut flowers, three firsts and two seconds; vegetables, ten firsts, five seconds, and two thirds. In the open section, which was for vegetables, one first and eight seconds. It is only fair to say that the winner of the first prizes in this section was a professional exhibitor, who takes many



FIG. 46.—CLERODENDRON TRICHOTOMUM.

flat beds of manure about 18 inches high, and produce an enormous quantity of fruit.

At one end of the garden is a good sized greenhouse, this is used during the summer for Tomato growing. At the time of my visit it was full of plants, in about 12-inch pots; they were well fruited, although a quantity had already been gathered. Challenger stands first in the estimation of the grower, and as could be seen, was carrying by far the heaviest crop. For some reason or other many of the blooms of Polegate fail to set, and will not be grown again.

It must not be thought that because so much interest is taken in growing vegetables, flowers are neglected. In addition to growing bedding plants for the adornment of the station and platform, a speciality is made of annuals for exhibition, such as Asters, Stocks, African and French Marigolds, and Zinnias. A few Roses and Cactus Dahlias are also well cared for, and find a place on the exhibition table. Amongst many kinds of Dahlias I noticed Lady Penzance, Miss Webster, Starfish, Earl Pembroke, Mrs. Turner, and Bertha Mawley.

prizes at most of the shows in the district. He won all the first prizes with the exception of two, the subject of our note beating him with spring Onions, and another exhibitor with Cucumbers. Not only is he successful at their own shows, of which he is a member of the Committee, but at a larger show held in a town not far away, this year taking several prizes both in the open as well as in the cottagers' class for cut flowers and vegetables.

In Sir Alfred Austin's book, "The Garden That I Love," he tells us of a mechanic who was the owner of a garden about 15 feet square, and who, when complimented on the assiduity with which he cultivated his bit of ground, and for friendliness sake, observed that he must indeed be fond of it, came the emphatic answer, "I could live in it." When leaving this stationmaster's garden I congratulated him, and intimated that he must spend a great deal of his spare time in it. He did not reply by saying, "I could live in it," but the emphatic answer was "I love the work, I love the work." To this I think we may attribute his success as a gardener and as an exhibitor.—J. S. UPEX.

EXHIBITING GRAPES—A DISQUALIFICATION.

ON page 208 of last week's Journal I note that Mr. Jones expresses his disappointment at being disqualified in the class for decorated dessert table at the Great Malvern Show, and as you, Mr. Editor, wish to hear "the other side," I, as one of the Judges, would like to correct one of Mr. Jones' statements—viz, that he was awarded first prize for the decorated dessert table. This statement must be purely from imagination, as Mr. Jones' exhibit was never spoken of as being first. The first thing noticed by us (the Judges) in this particular exhibit was that it only contained five distinct kinds of fruit, and, chiefly through the Secretary, he was awarded a special prize. Mr. Jones would have us believe by the wording of his note that we awarded him the first prize and then our attention was called to the fact that his table contained only five distinct kinds instead of six.

The only persons present with us were three officials—the Secretary and two non-exhibiting members of the Committee, who agreed with us that the wording of the schedule was deliberate and clear; kinds, not varieties, were distinctly meant. Apart from my own experience, I have ascertained from several experienced judges the fact that if black and white Grapes are to count as distinct kinds of fruit it should be so stated in the schedule, as is the case, for instance, at Shrewsbury and elsewhere, when exhibitors and judges would be able to follow lines which would not end in disappointment.

I cannot see how black and white Grapes can be admitted as two distinct kinds of fruit unless a note to this effect be inserted in the schedule. One might as reasonably admit that Red and White Currants, or golden and purple Plums, form respectively two distinct kinds. I admit that black and white Grapes add considerably to the value and appearance of a collection of fruit, and should always be included if possible, but they would only form two varieties of one kind of fruit, therefore permission for their inclusion as two kinds should be made quite clear in the schedule.

The Malvern schedule does not allow this latitude, as the class under discussion is only a six dish one, and the Show being held in the month of August, when there is such an abundance of all kinds of fruit in perfection, the Committee does not consider it necessary to allow two varieties of Grapes, or any other kind of fruit. Again, if an exhibitor who properly follows the rule of the Malvern schedule, and stages one dish of Grapes only, and his opponent erroneously takes it for granted that he can show black and white Grapes as two distinct kinds of fruit, the former finds himself at a disadvantage, because he must in all probability insert a fruit which is inferior in point value to his opponent's second dish of Grapes, especially in such a limited collection as that under discussion. Those who read and judge the case on its merits will probably agree that justice was only intended and delivered.—GEORGE MULLINS, *Eastnor Castle Gardens*.

[We always like to hear "both sides" of a case, and our correspondent has put his side admirably. Botanically speaking, he is perfectly right, and on that basis his analogies of Black and White Currants and golden and purple Plums are valid. It is clear, also, that Mr. Jones did not comply with the precise terms of the schedule, and as the Secretary and Committee say that six distinct "kinds" only were meant, the wording of the schedule must be the law of the Show in this reference (see par. 8, page 6, R.H.S. Rules). Garden products are not, however, exhibited on botanical lines; if they were, a dish of Peaches and a dish of Nectarines on the dessert table would not have been admissible as distinct "kinds," as the Nectarine is a smooth-skinned Peach, but by custom they are allowed as distinct; so, in the same manner, are black and white Grapes in collections. This is ratified by the R.H.S., rule 8, page 6, which does not say they may be allowed as distinct, but that they "are," after the manner of Peaches and Nectarines and varietal members of the Cabbage tribe; and though it is well to insert words to emphasise a custom, it is not less desirable to make clear any departure from it that a committee may desire in the schedule of the show. The Malvern schedule is so clear that it would be difficult, we think, for an exhibitor to misunderstand any of the classes but one, and this one evidently was misunderstood. If a parenthetical sentence had been inserted (only one variety of Grape allowed), as we have more than once seen in such cases, it would have been better, because it is impossible to make the terms of any class too clear, and it is surely desirable to avoid all risks of misinterpretation when this can be done in half a dozen words. It ought to be remembered that exhibitors should know as well as committees and judges exactly what is meant by the terms of the schedule of every show.]

A CALL AT WEM.

THAT is the subject of my "visiting note," mentioned last week. For a few years we—wife and I, both keen flower lovers—have decided to see the far-famed Sweet Peas of Mr. Henry Eckford on our journey to Salopia, but something has arisen to put the visit off. This year we determined that nothing should stand between, and we took the first day of the week—Monday, the 21st—to go on to Wem, the Mecca of all Sweet Pea devotees. Wem is only a few miles out of Shrewsbury, and the line runs through a lovely part of the county, and you get beautiful views of the rock of Grinshill and the Hawkstone Park country.

On arriving at Wem Station, on inquiring for Mr. Eckford's place we are readily told, "Oh! yes; over the crossing and down the road, and you will be there in two or three minutes." Our noses would have guided us aright if nothing else would, for there is on the air the delicate

perfume from the Sweet Peas. We found Mr. Henry Eckford (a real "grand old gardener") and his son going over their experimental ground of annuals, and noting and tabulating their respective merits. We had only to say who we were to get the most hearty of welcomes, and young Mr. Eckford laid himself out to show us some of the treasures of their nurseries. I say some of the treasures, because after walking through alley after alley over acres of ground, lined with Sweet Peas in the most regular order, we were told that most of the culinary Peas were on a farm some two miles away.

And what can be said of the Sweet Peas? Just this, there is surely no such sight in the world! Being August and a droughty season, and the great object of the firm to get clean, well-ripened seed, the flowering in mass was practically over, only a few belated flowers being left in each row to give the visitor some idea of what a wealth of flowers there had been in July; and, the great thing of all, to show in reality the varieties faithfully kept separate, all rogues being rigidly weeded out and burnt. Shall I give the names of the best varieties? No, certainly not; I am not a recorder of details. Send to Mr. Eckford for one of his catalogues, pick your own varieties according to choice, and send your order in, and you will get, I am sure, Peas true to name and healthy in seed that will give satisfactory results if you grow the plants well. As to culinary Peas, Mr. Eckford's up-to-date varieties are worth a trial too.

Mr. Eckford is not only great in Sweet and culinary Peas, but being a thorough florist, and one of the old school, he has a splendid collection of Pansies, from the finest florist kinds, Fancy kinds, to the very beautiful Peacock varieties; also, he is great in Dahlias and Verbenas. His Verbena bed was in full flower, and looked like a piece of tapestry from the singularly happy blend of colour. Ornamental Grasses are also largely grown, and very uncommon and graceful varieties too, and a hardy Maize, which ripens its spikes of seed though sown and grown in open ground, will be more heard of in the future, or I am much mistaken. But I need not particularise, the houses and grounds are full of good things.

After a round of inspection of more plants, flowers, and seeds than the memory can give an account of, Mr. Eckford said he was not going to part with us as if we were strangers; we must go to his home in the town and have some refreshment. We went, and found a perfectly charming home with three generations in it, from whom we received the warmest and most homely welcome. We spent the afternoon in a perfect oasis of a little garden, a square of brick walls clothed with Ivy, Ampelopsis, and other creepers, and made deliciously green, sweet, and charming by skilful and dainty arrangements of Ferns, foliage and flowering plants. Here the veteran and his wife and daughter and grandchildren entertained us delightfully until our train was due, and then they gave us a send off down to the station. The visit to Wem will long be a bright spot in the memory of the good wife and—N. H. P.

AUSTRALIAN ALPINE FLOWERS.

AUSTRALIA has frequently, and with justice, been described as the botanist's paradise, and Sir Joseph Banks has left on record the impressions of surprised delight produced by the variety, beauty, and luxuriance of the vegetation encountered by him on the shores of what now constitutes the rich and prosperous colony of New South Wales. It has been estimated that the colony possesses about 4760 kinds of indigenous plants, in addition to a large number of useful plants and weeds introduced from other countries. The number of native plants is being increased by recent discoveries in the snow country, in the extreme south-eastern portion of the colony, which is extremely mountainous, extensive portions of the country being above the snow line, one of the peaks, Mount Kosciuszko, rising 7328 feet above sea level.

Recently Mr. J. H. Maiden, Director of the Sydney Botanic Gardens, described the results of a visit to Mount Kosciuszko. He said the region did not boast the possession of what might be called showy flowers, but so many of them had a beauty and a sweetness particularly their own that it did not seem an exaggeration to call them gems. Their beauty grew upon one the more they were studied. They were neither garish nor coarse, if such expressions could be used in regard to any member of the vegetable kingdom. The range of which Mount Kosciuszko, with its snow-capped summit formed such a prominent feature, extended over a considerable area, and possessed an extensive flora. Vegetation ceased at an altitude of 6500 feet. For some distance only one kind of tree was seen (Eucalyptus coriacea, the Snow Gum), and it gradually diminished, until at what was called the "tree line" it assumed the size and much of the appearance of scrub. Above were wind-swept plains, plentifully bestrewn with dwarf shrubs and tiny herbs.

Botanically the most interesting portion of Kosciuszko consisted of these plains, which were dotted over with granite masses, in the interstices of which a number of interesting plants thrived, in addition to those most commonly found in the more open country. Some of the plants took a rock-climbing habit, assuming the shape of the rock to a remarkable degree. Others formed mats consisting of dwarf plants, most of them constituting a mass of flowers in the summer. By far the greater number of the flowers were white in colour, yellows ranking next, though greatly inferior in number. Green and inconspicuous dull yellow, and purple and pink were fewer still. There was only one plant bearing a blue flower, but it was a very showy one. It had long sword-shaped leaves, and was called *Dianella tasmanica*, and was not found higher than the tree line, attaining its greatest luxuriance in the belt of stunted Gums forming the tree limit.

Perfume-exhaling flowers were somewhat scarce, as, excluding the few Rutaceæ and Myrtaceæ, whose leaves only emitted an odour on being crushed, the notable perfumes appearing to be confined to the genera *Epacris* and *Slackhouisia*. Some specimens of the former on the mountain exhaled a most powerful odour of cloves, which in the attenuated and restless atmosphere is observed long distances from the nearest patch of bloom. *Slackhouisia pulvinaris* was a dwarf yellowish flowering plant forming little mats, and it emitted a perfume both powerful and sweet.

Many of the plants became considerably dwarfed in size, and amongst them was mentioned the only Conifer found on the mountain. It was only a couple of feet in height, but in the lower country it grew to nearly three times that size. This characteristic was noticeable in several other plants, including *Claytonia australasica*, *Slackhouisia pulvinaris*, *Epilobium confertifolium*, *Nertera depressa*, *Raoulia calipes*, *Gnaphalium japonicum*, *Goodenia hederacea*, *Peutachondra pumila*, and *Pimelea alpina*. The Ferns were few in number, not more than half a dozen at the most. One of the most charming of Australian alpine flowers is the dwarf and spotlessly white *Caltha introloba*, growing on the fringe of the snow drifts or actually under the snow. It is described as being extremely beautiful and worthy of admittance into the most select company of alpine plants.

Botanical students visiting Australia will find much to engross their attention in the New South Wales snow country, and probably be enabled to discover fresh forms of alpine plant life, but their investigations must be made during the warmer period of the year, from November to February, the seasons in the northern hemisphere being reversed in the southern. The alpine country is easily reached from Sydney, a few hours ride by rail bringing the visitor to its fringe, the tracks up Mount Kosciuszko being well defined, and guides for the lesser known portions readily procurable.—J. PLUMMER, *Sydney, N.S.W.*

NOTES FROM HINDLIP.

CALLING recently at the well-known Hindlip Gardens, near Worcester, I was courteously shown round by Mr. Russell. Among the strong features of the place were the Apples; these were magnificent in size and quantity. The lush trees in the kitchen garden are pictures of fruitfulness, the branches of Apples literally resembling ropes of Onions, with the difference that the Apples are much larger in many cases. Among the best are Ecklinville Seedling, King of the Pippins, Striped Beefing, Tower of Glamis, Potts' Seedling, Sturmer Pippin, Cox's Pomona, Winter Hawthornden, Worcester Pearmain, Keswick Cudlin, Court Pendu Plat, Gascogne's Scarlet Seedling, Lord Derby, Cox's Orange Pippin, Loddington Seedling, and Mother Apple.

A better idea of the crop may be obtained by stating that a tree of Cox's Pomona, about 7 feet high, has already yielded 3 bushels of Apples this season, and there were about 60 lbs. left on the tree when I saw it on September 4th. This tree may be taken as a fair type of the others I have mentioned; the fruit is as remarkable for its large size as for its abundance. Trained Apple trees on the walls do well, especially Golden Noble, Hawthornden, and American Mother.

Pears in the open were well represented by Thompson's, Beurré Hardy, Seckle, Louise Bonne de Jersey, Souvenir du Congrès, and Pitmaaston Duchess. Upon the walls the best were Beurré Bachelier, Passé Colmar, Glou Morceau, Beurre d'Amanlis, Souvenir du Congrès, Doyenné du Comice, Doyenné d'Alençon, Marie Louise, and Pitmaaston Duchess. The last tree mentioned produced 112 fruits in 1895, and they weighed exactly 1 cwt.; it is now bearing a magnificent crop.

On the walls were also noticeable very good crops of Peaches and Nectarines, the latter being represented by Humboldt, bearing fruit so highly coloured as to be nearly black. A tree of Plum Belgian Purple was also very attractive owing to the enormous crop of large and deep purple fruits it carried.

Cyclamens are grown splendidly at Hindlip. There are about 500 plants in pots in frames, and they are growing most vigorously, a proof of right and sensible treatment. When will the old-fashioned system of drying off be entirely abandoned?

A bed of Violet Princess of Wales looks grand. These have received grateful shade from the burning sun, and Mr. Russell has used shading of an inexpensive kind; indeed, it has been a source of profit in itself. I refer to a row of Runner Beans which he sowed in front of the Violets, staked in the usual way, and which has given the partial shade so beneficial to Violets when the solar heat is intense and prolonged, and water is scarce.

Tomatoes are grown well and in large quantities at Hindlip. Two houses are now filled with young plants in pots, which will continue fruiting through autumn and winter. Other, and larger, structures are producing their last bunches of fine fruit. Many of these plants have borne twelve to fourteen large bunches, and as they are all grown on the single stem system it is obvious that the crop has been one of the best. The best varieties here are Ham Green, Sutton's Perfection, Hackwood Park, and Regina.

A wide span-roofed structure is planted with Fig trees on each side. It has been a very successful house, there having been produced in it during the months of June, July, and August 118 dozen Figs, and many are yet to be gathered. The trees are trained on a curvilinear trellis from each side, and form one unbroken and gigantic arch of Fig trees and fruit.

The Vines are carrying good crops of well-finished Grapes. One old Vine of Muscat of Alexandria nearly fills a large house. It is rather

curious to see the long and narrow bunches this Vine bears; in shape they are quite distinct from the type, but in all other respects are identical. In another viney we find Black Hamburg gradually displacing Madresfield Court Muscat, and in another year or two this large viney will be entirely filled with the one Black Hamburg. Other vineeries contain crops of Lady Downe's and Alicante of good size and colour.—J. UDALL.

BUNCH GOOSEBERRIES.

I ENCLOSE berries of a Gooseberry unknown to me, and of which I found a peck or so in Birmingham market the other day. They grew in a cottager's garden near Bromsgrove, and in bunches from three to six berries in a bunch, similar to Black Currants—they are nearly tasteless. I never heard of such a Gooseberry before, and cannot ascertain its origin, so thought the novelty might be interesting.—W. GARDINER.

The berries which have been sent to me resemble those of *Ribes oxycanthoides*, but are produced in "straps" (racemes) from three to six, as stated by Mr. Gardiner, and shown in the accompanying illustration, fig. 47, at A and B respectively. The fruits are quite smooth, veined lengthwise, with a few cross veins; colour pale to deep rosy red, but some berries have orange-coloured veins, and others are flesh-coloured with yellowish veins.

Most of the fruits accord in appearance with that of the Gooseberry, and vary considerably in size. The largest berry of the sample is represented at C, and the smallest of the Gooseberry type at D. A few

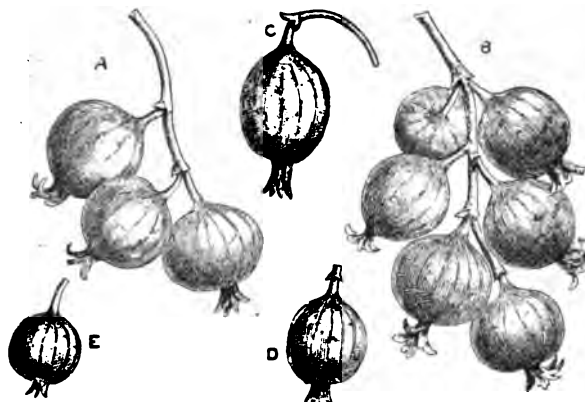


FIG. 47.—GOOSEBERRIES FROM BIRMINGHAM MARKET, AUGUST 10TH, 1899.

References.—A, berries produced three in a "strap." B, six berries borne similar to Currants. C, largest berry of sample. D, smallest Gooseberry-like berry. E, Currant-like berry. (All natural size.)

of the berries resemble those of the White Currant, but with a pinkish tinge and yellowish veins. One such berry is shown at E.

The skin of the berries is bright, shining, and thin, like a Currant; flesh rather firm, pale pink to rosy-flesh colour, juicy, acid like a green Gooseberry, or between an unripe Gooseberry and half-ripe Red Currant flavour.

The berries point to a natural hybrid between the wild Gooseberry (*Ribes Grossularia*) and the wild Currant (*R. rubrum*), for they have the form of the former, while the skin, flesh, and flavour accord with the latter. It is an open question as to the bush producing the berries portrayed being the result of the natural cross-fertilisation of the cultivated Gooseberry by that of the Red Currant. Everyone knows that bees work on Gooseberry and Currant flowers indiscriminately; but in neither seedling Gooseberries nor Currants have I noticed any semblance of a natural cross between them.—G. ABBEY.

[In Bailey's "Evolution of our Bush Fruits" a photographic illustration is given of the wild American Gooseberry, *Ribes Cynobasti*. It is described as "spiny-fruited, thick-skinned, and long clustered," but it is further said that "although the fruit is normally hairy, smooth-fruited forms often occur;" it is further observed that promising efforts have been made to ameliorate the species. Only three berries are shown in a cluster in the figure. They are not smooth with an open calyx, as in Mr. Abbey's illustration, but all the calyces are closed to a point. In Card's "Bush Fruits" *R. Cynobasti* is botanically described. It is referred to as "a promising species; as found wild (in New Brunswick to the mountains of North Carolina and westward to the Rocky Mountains) its fruit is larger than that of *R. oxycanthoides*, often reaching half an inch in diameter, reddish-purple, generally prickly or hairy, but often smooth; plants generally prolific and less spiny than those of *R. oxycanthoides*, being free from thorns in some cases." The two books referred to are published in this country, as advertised by Macmillan and Co., at 7s. 6d. and 5s. respectively, and will be acceptable to those persons who are interested in American fruits.]

POINTS IN THE PARKS.

(Continued from page 187.)

I WAS glad to obtain a little air on the top of a 'bus from Hyde Park as far as Regent's Park, if such a thing were possible in town on a scorching day, and it was quite a relief to rest under the beautiful trees that are so noteworthy here. Immediately on entering, a pretty bed of *Begonia Corbeille de Feu*, one of the *semperflorens* type, took my fancy. Although not bright it had a good tone, to which the foliage added materially.

A huge bed of succulents must be examined, because it presented a much better appearance than these plants usually do. The giant specimens of *Agave americana* and its variegated form were the most notable, but there were plenty of other kinds, each well displayed in a groundwork of golden Creeping Jenny, *Sedum glaucum*, *S. acre*, *Kleinia repens*, *Echeverias*, and *Mesembryanthemum*.

The *Celosias* are a great feature, and the strain employed is the finest I have seen; the colours are brilliant and varied. I was told it was their own strain; be that as it may, it is a splendid example of the florists' art. I observed, too, they are labelled Feathered Cockcombs. A bed of dark leaved Cannas, with bright red *Celosias* and groups of Bridal Wreath, edged with Sunray Fuchsia, was a pleasing feature. A gigantic bed filled with large Palma, *Aracaria excelsa* and Bamboos in the centre, was conspicuous; while groups of *Acalypha Macaeseana*, well coloured, *Abutilons*, and *Asparagus plumosus nanus*, amongst other plants of the foliage type, formed a pleasing contrast with clumps of *Rudbeckia laetiflora* Golden Glow.

Violas are always well displayed in the parks, but this year Mr. Jordan has launched out with a large bed composed of many varieties planted in informal blocks, and the effect should be seen to appreciate its full worth. It will be seen by the varieties mentioned that the newer forms are not ignored. Those most striking were Lottie McNeil, Magnificent, rosea pallida, Marchioness, J. B. Riding, Molly Pope, Sylvia, Bridegroom, and Archie Grant.

Ornamental Gourds form an imposing feature. In some cases they are to be seen running up poles in the shrubberies, while in others they are allowed to wander on to the lawns, and very beautiful they look with their fine handsome foliage. I would fain mention several other beds in this beautiful park, but space forbids.

As soon as one leaves the West End parks and proceeds eastwards, the first thing that strikes one is the lack of people wandering about in the middle of the day. No doubt the parks are just as crowded in the evenings, but at noon they are mainly occupied by children, while probably their parents are at their daily calling. Even the summer bedding recalls the fact that we have arrived in a working district, where the people, like their parks, are more matter-of-fact and conventional. We lose the lower ideas, and come to the more orthodox type of planting.

Yet the beds of scarlet "Geraniums" in Finsbury Park, relieved by the aid of pyramidal Fuchsias and edged with blue *Ageratum* attracted me as much as ever; their very brightness seems to arrest attention. A pretty combination is composed of large plants of *Souvenir de Chas. Turner* Ivy-leaved Pelargonium, with clumps of white *Antirrhinums*, red *Celosias*, edged with blue *Lobelia* and variegated *Mesembryanthemum*.

A bed of *Begonia semperflorens*, with *Acacia lophantha* as dot plants, and edged in a similar manner to the last mentioned bed, formed a pleasing change. Some of the small beds, filled with Cannas, *Begonias*, Fuchsias, and edged with *Lobelia*, were particularly fine—in fact, the whole of the bedding was bright and well developed.

I have a somewhat unfortunate habit of going to the wrong station to see the summer bedding when I visit Victoria Park, and a walk right across this, the largest park in London, on a close sultry day is not a desirable feat. Still it had to be done, and in due time I arrived at the beds. Here, as at Finsbury, the bedding takes more of the conventional type. The brilliant masses of colour cannot be other than greatly admired, as they were the picture of health and beauty.

The collection of beds near the winter garden had many admirers. It was just one mass of brilliant colours, chiefly contributed by "Geraniums" in all colours, *Marguerites*, *Lobelias*, and others, relieved by the trim-kept lawns between the beds. A bed of white *Marguerites*, with scarlet "Geraniums," and edged with blue *Lobelia*, was simple but beautiful. A foliage bed of variegated Maize, with large scented "Geraniums," *Lobelia cardinalis*, with blue *Lobelia* and Wave of Life Fuchsia, was a pleasing relief to the gayer beds.

I was struck with the effect produced by planting silver variegated "Geraniums," and *Verbena venosa* with an edging of blue *Ageratum*. They are strange colours to put together, but the harmony was capital. Succulents are not neglected here, and there are some fine beds to be seen, while the specimen American *Aloes* are magnificent. The London people appear to appreciate this class of plant, for there always appears to be a knot of admirers round the beds, and I am quite sure they could be utilised in private gardens much more effectively than is the case at present. I heard of a beautiful scroll and some other fine beds, but being a stranger I took the wrong turning, which led me out of the park at the end I ought to have gone in, and saved myself a mile or two of walking.

How is it that all the plants are named clearly and distinctly in the West End parks, while labels in the East End parks are conspicuous by their absence? Surely if it is necessary to educate the fashionable crowds "up West," as it is termed, how much more so is it essential in the East End parks, especially as the dwellers in these localities take so much interest in their flowers!—A COUNTRY VISITOR.

TWIN APPLES.

I HOPE you will excuse my weakness for Apples in sending you a pair of twins, both grown on one spur of a bush tree of Lord Suffield, which has produced a heavy crop of fine large fruits this season.

Speaking of the cropping qualities of Apples, Stirling Castle is equal to Lord Suffield and Keswick Codlin. Cox's Orange Pippin has a very heavy crop for the sixth consecutive year, Lane's Prince Albert is full as usual, Lord Derby never misses a crop, nor does Mère de Ménage. Cox's Pomona and Alfriston are nearly failures this season, Warner's King is not a full crop; Port's Seedling and Golden Spire are heavy croppers.—G. PICKER, *Hesslewood, Hull*.

[The Apples received are perfect twins, similar in character to the one figured, but less uniform in size, each pair having a common stalk with no signs of fasciation. It is unusual for two such double fruits to be borne on one spur. The departure from the normal type is in this case accidental, but the specimen figured was sent to us some years ago by Mr. G. B. Clark of Woburn. It was taken, with several others, from a tree belonging to Mr. F. Bowler of Husbome Crawley, that had borne such Apples from year to year, but all the twin fruits were not so uniform in size as represented in fig. 43. It is called the Bedfordshire Twin. The fruit is generally about one-third larger than shown in the illustration, and was said to keep under favourable conditions till July.]

THE OLD PARSONAGE, GRESFORD.

WE were recently accorded the privilege of visiting the gardens of Dr. Mules at the Old Parsonage, Gresford, where one of the choicest collections of hardy border plants we have ever seen has within the past two years been established.

The neighbourhood of Gresford is particularly beautiful, and the whole of the doctor's garden is in perfect keeping with the surroundings. The Old Parsonage gardens have been in existence for many years, but to those who knew them previous to the doctor taking them in hand, the change is a very marked one, for what were then vegetable quarters and old shrubberies have been converted into a veritable floral paradise. Here there is an entire absence of that stiffness sometimes seen in the arrangement of flowers beds and borders, all these being set out in a most natural manner, and wearing the appearance of gracefulness and beauty.

At the time of our visit a large bed near to the entrance gate arrested our attention, and which was all aglow with choice, brightly coloured, tuberous-rooted *Begonias*, rising above which were *Liliums* of the lance-foolium type, and Cannas of various colours, all in full bloom. Near to this bed there were dotted about the lawn several new varieties of *Cactus Dahlias* and half standard *Roses*, the former being laden with exquisitely formed flowers. As we passed on surprises after another awaited us. The first of these was perhaps the collection of *Liliums*, numbering in all seventy-two distinct varieties, some being particularly choice and rare, including *L. polyphyllum* and *L. Leichtlini*, both of which have flowered successfully. In close proximity to these was a fine example of *Hamocallis aurantiacus* major, which had near neighbours in *Montbretia imperialis* and several varieties of *Crinums*, all of which have produced flowers.

In passing the doctor pointed with some amount of pride to a number of well grown plants of *Scabiosa caucasica alba*, which were flowering profusely, to the astonishment of others present who have tried in vain to bring this variety to the flowering stage. A bed of *Callas* next attracted our attention, and varieties such as *Pentlandi* and *Eliotiana* had, we were told, flowered freely under the same treatment as that given to *Dahlias*. As a proof of the mildness of the climate at Gresford a well furnished specimen of *Chamaerops excelsa* has withstood the past two winters unharmed. *Dolphinsium cashmerianum album* created considerable interest, as also did a collection of hardy *Cyclamens*, composed of *C. neapolitanum* and *C. europæum* var. Hardy *Orchidaceous* plants, *Ferns*, *Alpines*, and *Water Lilies* were also in evidence in nooks, crannies, and tanks specially prepared for them.

Dr. Mules believes in having the newest and best of everything in the way of florists' flowers, and this was very evident on examining his collections of herbaceous *Phloxes* and *Pentstemons*, both of which embraced a large number of varieties, and were remarkably fine. In a different part of the garden was a bed of seedling *Phloxes* of the doctor's own raising, the seeds of which were only sown in the spring, but nearly all the plants were bearing a considerable quantity of bloom. The time passed too quickly to do anything like justice to all that was to be seen, and it was with regret that we obeyed the command of the leader of our party to make for the station in order to catch the train for rare old Chester.—GEORGE PAXTON.

THE BELLADONNA LILY.—This is a very beautiful plant where it succeeds, a suitable place for it being often found near warm walls, where the soil is fairly good though comparatively light. I recently noted some nice plants of it at Shipley Hall, Derby, in front of one of the large greenhouses, a position often chosen and usually successful. Large robust looking spikes were throwing up, and those flowers that were open were of a beautiful rosy pink tinge. Top-dressing annually with rich soil is the best plan to keep the plants in health, as they do not relish frequent disturbance. Taking up the clumps and dividing is the easiest way of propagation, and this should take place before they get too crowded.—L. S. E.

A "STRAWBERRY MANUAL."

WE have received from Messrs. Laxton Brothers, Bedford, the best shillingworth of Strawberry lore that has come under our notice. "The Strawberry Manual" is a substantial little book of nearly 140 pages, well bound, printed, and illustrated, or, in a word, admirably produced. It is, moreover, well and concisely written, being packed with interesting information from end to end—historical, botanical, cultural, and commercial. Every phase of the subject appears to be treated, from the raising of seedlings to the disposal in markets, or otherwise, of the fruit, and scarcely a word is wasted in any of the compact chapters. As an example of the style of the botanical part of the work we take an extract from the opening pages:—

"This treatise is not intended to deal exhaustively with the botanical aspects of the plant which forms its subject; the chief object is to tell the story of the Strawberry in as simple a way as possible, in order that it may be useful to all who seek information respecting it. Still our most practical friends, whether eager amateurs or worthy earnest knights of the blue apron and spade, will, we are assured, welcome a few details which are outside the domain of cultivation, though having an important

succulent and edible. In the fourth group are placed the Apple and Pear, and there another peculiarity is displayed, for the edible portion of the fruit consists of the calyx tube become fleshy and closely surrounding the true fruit (the 'core') which encloses the seeds. This explanation, elementary as it necessarily is, appears essential to the formation of an idea respecting the origin of the Rosaceous fruits, and particularly the Strawberries now cultivated in our gardens. It is not difficult to imagine the Plum having developed from an older type of the character of the Sloe, the Cherry from a form in which the 'stone' constituted the greater portion of the fruit, as we find now, in the Wild Cherry (*Prunus avium*), the Raspberry in a similar way will have become more succulent under cultivation, and even in the wild form (*Rubus idæus*) still found in Britain, the difference is very marked, while in the Crab and the wild Pear examples can be found of the sources of our Apples and Pears.

"Equally our native Strawberry, *Fragaria vesca*, indicates at least one source of the fruit under special consideration here, though a still earlier type might be found amongst the nearly related *Potentillas* where the receptacle is large and conical, but dry and not edible. One species known as *Potentilla fragariastrum* approaches very closely to *Fragaria vesca* in all characters except that the receptacle is dry, and it was

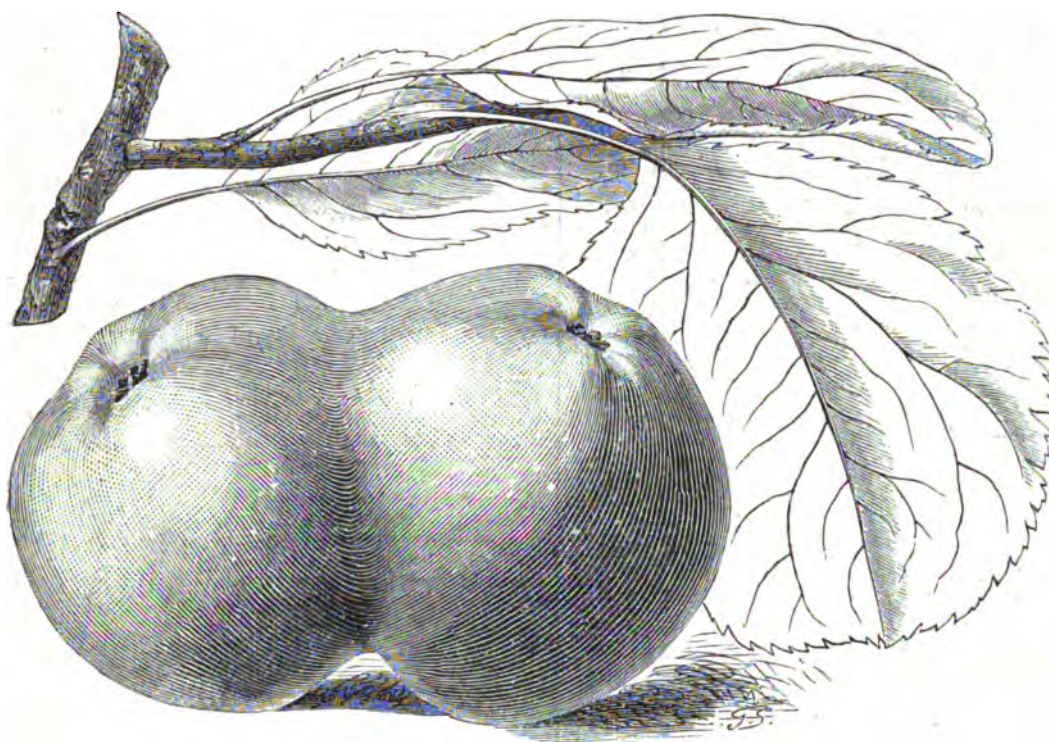


FIG. 48.—APPLE BEDFORDSHIRE TWIN.

bearing upon the development of the fruits that enrich the gardens and adorn the tables of the present day.

"British horticulture owes very much to the great Rose family, it is indeed proportionately as important to the gardener as the Grass family is to the agriculturist. To that widely diversified order of plants which the botanists have denominated Rosaceæ belong not only the Queen of Flowers—the ever delightful and popular Rose—but numerous other attractive flowering plants. Still it is rare to see within the same family such a combination of the ornamental and the useful as we find in this, for here are placed nearly all our most important hardy fruits. The noble Apple, the melting Pear, the luscious Plum, the aromatic Raspberry, and the lowly but exquisite Strawberry, all come within the bounds of the Rosaceæ, and render it unique amongst the families of plants which are special objects of care to horticulturists. We shall only attempt to deal with the characters of this family as they relate to the fruit, and especially to the subject of this treatise. Broadly speaking, what are termed fruits in the order may be classed into four groups—first, those of the Plum and Cherry type in which a single seed is enclosed in a juicy or fleshy pulp, the result of the enlarged matured ovary, and therefore a true and simple fruit. Secondly, the Raspberry and Blackberry type, where the ovaries enlarge and become juicy, containing a single seed each, but they are clustered together upon a common receptacle (the enlarged apex of the flower stalk) and consequently become a kind of compound fruit, formed of a number of simple fruits, the entire head being that popularly designated as the Raspberry or Blackberry. Thirdly we have the Strawberry, in which an entirely different order of things prevails; the true fruits are the dry seed-like bodies upon the surface of the so-called berry, the part commonly termed the fruit in this case being simply an enlarged receptacle similar in its origin to that which supports the Raspberry, but here become

described by some of the older botanists as *Fragaria terilis*, several other species of *Potentilla* having also been placed under *Fragaria*.

"The generic name *Fragaria* is founded upon a Latin word, and *Fragum* (plural *Fraga*) was applied by the Romans to the fruit of that form of the wood Strawberry known to them only as a wild plant. The word has the same derivation as 'fragrant,' and refers to the pleasing odour of the fresh ripe fruit, which character did not fail to impress the luxurious Romans, though there is no evidence that they ever sought to bring the plant into cultivation. It is singular that it is mentioned by few Latin authors."

Information of that nature is not common in treatises on the Strawberry, yet it is interesting, and the facts imparted should be known by more gardeners than are familiar with them.

The derivation of the common name, Strawberry, is also given, and we think correctly. It was, at least, Dr. Hogg's opinion forty years ago that it issued from "Strayberry," from the habit of the plant to stray into fresh ground, and thus at the same time teaching a good lesson to cultivators not to confine their plants for many years on the same site.

The question of the sterility of Strawberry plants and its transmission by runners is noticed, and the cause indicated—defect in pistils, stamens, or pollen. It is shown that American growers adopt measures to prevent the loss of crops by planting a proportion of pollen-bearing varieties, as Mr. Keens, the raiser of Keens' Seedling, did ninety years ago.

After treating on routine questions in a practical manner, descriptive notes of varieties are given, and selections made for light, strong, and calcareous soils, as determined by the votes of a number of cultivators; and it is noteworthy that Royal Sovereign (early), President (midseason), and Latest of All (late) head the lists for both light and heavy soils, also very nearly calcareous, Sir Joseph Paxton simply taking the place of President. The "Strawberry Manual" is a veritable *multum in parvo*, and we congratulate Messrs. Laxton on its production.

PLUMS UNDER GLASS.

(Concluded from page 200.)

WATERING.

THE trees must never be distressed for lack of a supply of water; one flagging ruins the crop for the season, and trees in pots are successful in proportion to the watering and nourishment. The soil must always be kept moist. Trees in pots require water twice, sometimes three times a day in the summer; also top-dressings of rich compost, preferably pieces of turf, to encourage plenty of surface roots, which can be fed to any extent by liquid manure and sprinklings of chemical fertilisers occasionally. Trees in borders will require water less frequently, that depending on root area, the spread of the top and the crop, but there must not be any deficiency of moisture or want of food. Over-watering and over-feeding must not be indulged in, for the Plum is impatient of extremes, but liberal treatment should be accorded if the trees are expected to produce full crops annually. As the fruit advances in ripening lessen the supplies of water and withhold liquid manure, but the foliage must not be allowed to become limp or to flag.

SHADING AND REPOTTING.

From the time the fruit is set until it begins to ripen the trees should be syringed in the morning, also in the afternoon, except on dull cold days, when a genial atmosphere may be secured by damping the paths and borders when they become dry. Syringing the trees must cease when the fruit commences to ripen, and the atmospheric moisture be gradually reduced, but a little of the latter will not do any harm provided the air is not stagnant, and it is necessary for the perfecting of the fruit and the health of the foliage. Hexagon netting over the ventilators, and frame doors covered with it, are necessary to exclude bluebottle flies and wasps, otherwise use the thinnest muslin over the trees or enclose the fruits in bags of that material. After the fruit is removed recourse must be had to syringing, watering, and proper supplies of nourishment for the perfecting of the wood and buds for next year's crop. Early varieties in pots should be placed outdoors as soon as the fruit is gathered, assigning them a sunny position, and duly attended to in watering and syringing. Mid-season varieties may be treated similarly, also the late sorts as they are cleared of fruit. Repotting or top-dressing is best done before the leaves fall. The object to be kept in view is to secure fresh roots in new material, therefore remove as much old compost as possible without excessive root disturbance, not carrying the reduction too far, and ram the soil firmly. In top-dressing trees in borders the old mulching should be removed, and fresh supplied after loosening the surface. If the trees are growing too luxuriantly a few of the stronger roots may be severed and removed. When the trees grow exuberantly they should be carefully lifted and root-pruned, replanting with the roots near the surface, and well firming the soil. If the trees are unsatisfactory or weakly lit them, remove the old soil, and replant in fresh compost over good drainage.

TRAINING AND PRUNING.

Training and pruning are the next points to consider. Bush, pyramid, and round-headed trees on stems are best for pots or planting-out. Standard trees are unequalled for the latter purpose, and are easily formed by heading at the height required. Pyramids merely require the side shoots pinched and the leader stopped to secure them. Summer pinching may be practised twice or even three times on the leader, and the side shoots once or twice to four or six leaves, avoiding overcrowding the growth, otherwise the fruits are deteriorated for lack of air, and many of the spurs will be too weak to produce fruit, the numerous dead spurs on Plum trees being due to this cause. Pruning may be performed in the spring, as the buds are then easier distinguished by the inexperienced, but as soon as the fruit is gathered is the best time. As a rule Plum trees under glass should be trained for fruit first and form afterwards—that is, pinching, disbudding, and thinning must not be carried too far, for growth is necessary for the production of fruit, its development, and perfect finish. Trees on trellises or walls require the usual summer and winter pruning, but the spur system is not by any means the best for the Plum under glass. The trees being on front or roof trellises are best treated on the alternative system, in which the shoots are allowed to grow up to the glass, only keeping them just clear, these being stopped and kept moderately thin. By thinning-out the fruited branches annually, and encouraging shoots to take their places, the trees are maintained in youthful vigour, and the fruit produced is abundant and very fine. Old trees that produce little beyond breastwood and leaves will often yield enormous crops by laying-in young wood, which in the second year will form bloom buds throughout its length and give some fruit, and in the third year a good crop.—A.

SHOWS.

NEWTOWNARDS, CO. DOWN.—SEPTEMBER 7TH.

POLITICAL events have for many years had the tendency to leave the English mind warped in its idea as to anything really good ever being enacted in the "sister isle," and the English horticulturist often lauds his own shows with a flourish and a belief that it is he alone who produces the best of everything. But this is quite wrong, as many lessons have been learned from our Irish neighbours; and another English gardener who accompanied me from Liverpool was more than amazed when he first set foot into the show ground of the Newtownards Horticultural Society,

held in a portion of the grounds of Messrs. Alex. Dickson & Sons of the Royal Nurseries, on Thursday last.

Although in the ordinary sense of the word a quiet little business town, yet the show day is a "heyday and holiday," the admirable service of trains and the splendid system of jaunting cars bringing in some thousands of all classes, from towns and villages far and near, amongst whom were noted Lady Dufferin, Lord and Lady Clanmorris, and many of the Irish nobility, the scene being one of great animation. How does the sound of the "forty-fourth annual show, a balance of £540 in the bank, tents, staging, plates, and every requisite to fit out a show, all belonging to the Society," strike our English readers? This is the flourishing state at the present time, and it is largely due to the business capacity of Mr. George Dickson, J.P., head of the celebrated firm of Messrs. Alex. Dickson & Sons of the Royal Nurseries, whose work is to be greatly commended, for it is thorough and steadfast to a detail.

So, too, is he admirably supported by his splendid family of sons, and with Mr. A. Love, as Secretary, and Mr. McCullough, Treasurer, and a specially good Committee, the business is worked with a regularity too seldom found. With the Associated Chamber of Commerce holding its meetings in Belfast last week it was feared that the Show would be robbed of much of its beauty, and in the plant classes the larger specimens seen on former occasions were conspicuous by their absence, having to be left at home to be used for the many functions which were given to members of the Chamber of Commerce by the gentry of the county. But for all this the Show was of great magnitude, and the three huge tents were only just sufficient to accommodate the large number of entries.

The arrangement was well carried out, but one decided improvement could be made in the lower tent, if instead of having the groups arranged on the wooden supports, they could have circular groups of say 40 to 60 feet arranged down the centre. Not only would it be a feature to visitors, but it would tend to raise what appears to be the weak part of the Show. Perhaps the Committee will consider it ere another show takes place. The schedule is of a very large (278 classes) and most comprehensive character, and the prizes equal, if not surpass, many of our leading shows here, catering liberally for every section.

In the nurserymen's section, the great stand arranged by Messrs. Alex. Dickson & Sons will stand as a record by any one firm. They staged and won the classes for fifty varieties of Roses; forty-eight Roses, not less than thirty-six varieties; thirty-six trebles, distinct; thirty-six Dahlias, Show or Fancy; twelve Poppies; forty-eight Gladioli, not less than twenty-four varieties; twenty-four Begonias; twenty-four Zonal "Geraniums"; and thirty-six bunches of hardy herbaceous plants, not less than eighteen varieties, all with marvellous types of the highest culture. Nor was this all, for there was a show itself in 150 brilliant spikes of Gladiolus Childs, many flowers being equal in size to an Amaryllis. There were, too, fifty varieties of grand Sweet Peas; lovely bunches of the firm's new single garden Roses, which are shortly to be sent out; and a very fine group of miscellaneous plants. In addition the firm was second to Mr. John Snellie, of Busby, for thirty-six Cactus Dahlias, the latter winning the classes for Pansies and Violas. Then came the trained plants, and Messrs. Dickson & Sons made a grand contribution of four stove and greenhouse plants, four Fuchsias, four Coleus, four Zonals, four double "Geraniums," four bronze, four tricolors, two Liliun auratum, and four Begonias.

The large collection of fruit of the finest varieties of Apples and Plums, brilliant in colour, formed another feature to the credit of Messrs. Alex. Dickson & Sons. In addition to their prizes, the Judges unanimously granted special awards of medals to the firm for Roses and Gladiolus Childs.

Stove and greenhouse plants were somewhat lacking in colour; Mr. J. Taylor, gardener to the Marquis of Londonderry, Mount Stewart, winning with ten; whilst for a similar number in small pots, table plants, six exotic Ferns, Palms, Coleus and Lilliums, Mr. W. Dickson, gardener to Lieut. Col. Sharman Crawford, Crawfordsburn, was simply invincible. All the three classes for trained "Geraniums" were taken by Mr. Cole, gardener to Lord Dunleath, with good plants.

In the amateur section Dr. Henry, who specially cultivates his own plants, took the record with twenty-one first prizes, Lilliums and foliage plants being specially good.

Cut flowers formed a choice display of extraordinary beauty, the brilliancy of the Gladioli in each class by Mr. T. Mills, gardener to C. Dunbar-Buller, Esq., D.L., the Dahlias from Mr. W. Dickson, and the numerous other prizes throughout by the latter, being excellent. In these classes Mr. Cole was seen to great advantage.

Fruit was equal to much of the best seen this year, but scarcely compared with the grand quality observable last season. For twelve dishes, Mr. E. Duffin, gardener to Lord Macnaghten, Runkerry, was a good first, with Madresfield Court Grapes (extra), Marguerite Marrillat Pear (splendid), Sea Eagle, and Bellegarde Peaches (good), Pineapple and Newton Nectarines, rich in colour, and a fine Melon. A good second was Mr. R. McKenna, gardener to Lady E. Bury, Tullamore, who had Grapes Cooper's Black (fine), and Muscat of Alexandria (excellent), Princess of Wales Peach (grand), and capital Figs. Mr. McKenna succeeded in reversing the order for six bunches of Grapes, Cooper's Black, Muscat of Alexandria, and Black Alicante being the best. Mr. E. Duffin came second with Madresfield Court, a splendid Mrs. Pearson, and Black Hamburg being most telling, whilst the Gros Colman and Madresfield Court showed up well for Mr. W. Dickson in third position. For two bunches any other black, two bunches white, and two Black Hamburgs, Mr. E. Duffin staged magnificently. He also won for Williams' Bon Chrétien Pear, Worcester Pearmain, and Norfolk Dumpling Apples, Greengage and

There were several classes for Dahlias grown by cottagers, and it was interesting to see their correct ideas as to quality in the blooms, and proper staging. The principal prizewinners were Messrs. F. Coles, W. E. Prentice, W. Walden, W. Spriggs, C. Coker, and C. Lilyman. Some very good Asters were also shown by cottagers, and nine classes were devoted to vegetables, very good produce indeed being staged.

FRUITS AND VEGETABLES.

A few classes for fruit and vegetables were open to all. Mr. G. Douglas, Wellingborough, had the three best dishes of culinary Apples, having good examples of Peasegood's Nonesuch, Emperor Alexander, and Lane's Prince Albert. Mr. T. Pendered was second with Eeklinville Seedling, Werner's King, and Blenheim Orange. Mr. G. Douglas was also first with three dishes of dessert Apples; he had good fruit of Cox's Orange Pippin, Cox's Pomona, and Worcester Pearmain. Mr. Pendered was second with Lord Lennox, Cox's Orange Pippin, and Worcester Pearmain. Mr. Pendered was first with three dishes of Pears, having Bourré Diel, Marie Louise, and Louise Bonne de Jersey, all very good. Mr. Douglas came second with Doyenné Boussoch and Bon Chrétien. The same exhibitor was first with three excellent dishes of Plums, having Victoria, Emperor, and Washington. Mr. H. Latimer, Wellingborough, was the only exhibitor of two bunches of Grapes, having a good bunch each of Black Hamburg and Buckland Sweetwater.

NEW DAHLIAS.

Certificates of merit were awarded to the following new varieties of Dahlias:—Show: Thomas Pendered, clear, soft yellow, of a pleasing shade and excellent petal and outline, from Mr. G. Humphries. To Cactus: Mrs. J. J. Crowe, pale sulphur yellow, perfect form; Mrs. Carter Page, cerise red, of true Cactus shape, fine and effective; and Innovation, red and white, a glorified Arachne, from Messrs. Keynes and Co. To Mrs. F. Sharpe, amber, the base of the petals tinted with delicate salmon; Enid, rich ruby red, very fine Cactus type; and J. F. Hudson, carmine rose, paling to reddish fawn, with yellow centre, very distinct and fine, from Mr. R. Keeble; Green's White, a decided improvement on the white Cactus; and Zephyr, soft pinkish rose, very distinct and pleasing, from Mr. John Green, Norfolk Nursery, Dereham; Pompon Cheerfulness, yellow ground, edged with bright red, from Messrs. Keynes & Co.; single Dahlia Edie Oblein, gold and salmon, overlaid with delicate mauve; and Nellie Nicholson, white, with side edgings of bright rose, both distinct and very pleasing.

Mr. Seale had a stand of twelve seedling single Dahlias, from which the two foregoing were selected, and Mr. John Green, Dereham, had a stand of new and choice varieties of Cactus and Pompon Dahlias; among the former were fine bunches of Green's White and Zephyr, Red Rover, Grace Darling, Golden Plover, and Eclair. Both collections were very highly commended.

THE YOUNG GARDENERS' DOMAIN.

CAMPANULAS.

THERE are several species of these charming hardy plants, and one of the choicest is *Campanula pyramidalis alba*. The blue type is also very handsome. These plants are almost indispensable for the decoration of the greenhouse and mansion, while they are very effective when tastefully employed in miscellaneous groups at flower shows during July and August, for which purpose the white form is the more useful. I think when they are grown in pots that they look much more beautiful than when planted in herbaceous borders, as when the weather is hot and dry there are always numbers of dead and fading blooms on the spike. When plants are required for pots the seeds may be sown at the latter end of March in a box of light soil in the ordinary way. When germination has taken place, and the plants are large enough to handle, transfer to small pots and place in cold frames, and when root action has begun air the frames freely, eventually removing the plants quite to the open, repotting them as required; 6 and 7-inch pots are quite large enough to flower them in when sown in March, as they will not bloom until the following July twelvemonths. The plants should be plunged in cold frames to protect the pots during the winter months.

If very large plants are required the seeds should be sown in September, and the plants be grown all through the following year, repotting them as growth advances, and the final shift should be into 9-inch for the smallest and 10-inch pots for the strongest specimens. Liquid manure is very beneficial when the pots are full of roots. When seeds are sown in September the plants will not bloom until the twenty-first or twenty-second month after the seedlings appear. Fine specimens are got in this way, all the plants having from six to a dozen spikes of bloom, and the central spike often attaining a height of 6 feet 6 inches, and if the remaining spikes are symmetrically arranged a noble appearance is presented. Only the central spike will require a stick for support, and even that should be not more than 18 inches long. If the side spikes need assistance they may easily be looped to the central one, as nothing mars their beauty when in bloom more than a stake to each spike.

When the plants are in flower shade them from strong sunshine; I have had them last fully five weeks in beauty when used in a light position in the drawing-room, so it will be easily understood that a little extra care is not lost. The soil for the last potting may be made up as follows:—Three parts of good loam, one part of leaf soil, one part of decayed manure, a little sand, and a liberal amount of lime rubble. The plants will require the same winter treatment as given to the March sown plants. After flowering the plants will be of no further service, so may be consigned to the rubbish heap.

Campanula media, commonly known as the Canterbury Bell, is also useful for pots, and requires somewhat similar treatment. They are, however, generally sown in spring, and planted outside in a border, to be lifted and potted the following spring. *Campanula isophylla* and *C. l. alba* are useful when grown in small pots as an edging to the greenhouse or conservatory stages, it having a trailing habit of growth. It is

also useful for hanging baskets, but care is needed in not allowing these to become dry or failure will result. This variety is often seen to perfection in cottage windows, and suspended from the ceiling the pots are generally hidden by foliage and flowers.

Campanula persicifolia and *C. p. alba* are grand for the herbaceous border, and for cutting purposes. It has spikes 18 inches long, and the individual blooms are quite 2 inches in diameter. It flowers during July and August. There are many other *Campanulas* which are suitable for the herbaceous border, also alpine varieties for the rock garden.—FOREMAN X.



HARDY FRUIT GARDEN.

Cleaning the Fruit Room.—It is very important that the structure in which choice fruit is stored should be scrupulously clean, dry, and sweet before any bulk of fruit is placed in for storage. The whole of the inside woodwork should be well washed with soap, soda, and hot water. The walls must be whitened with fresh lime, which will destroy insects and sweeten the atmosphere. The floors, as a finish, ought to be well scrubbed. Execute any repairs which need doing annually. Decaying woodwork is detrimental to stored fruit, which requires everything to be sound and clean. The means of ventilation must also be in order.

Gathering Fruit.—Apples and Pears should be gathered and stored as opportunity occurs and the fruit becomes ready. The different varieties have their time of ripening, which must be ascertained, or approximately so, in order that at or near this period more attention may be given to the trees in examining the fruit for tests of ripeness. The principal test is lifting the fruit to a horizontal position, when, if sufficiently ripe, it is readily detached from the spur. Other indications are increased depth of colour in the fruit, and the pips assuming a dark colour. Choice fruit must be carefully handled when gathering, so as not to bruise the outer skin and the tissue beneath it. Gather fruit when dry.

Storing Fruit.—A moderately cool and dry room must be selected for storing fruit if a proper fruit room is not available. It should, like the latter, have the means of being kept in the winter at a temperature of about 45°. The best fruit ought to be placed in single layers on shelves, or in drawers and boxes. Fruit trays are useful and convenient for storing in single layers. The fruit may be laid on clean sheets of white paper which is better than hay or straw, as they are liable to impart odours to the fruit. After storing fruit, especially in quantity, there is a certain amount of moisture evaporated, hence the need of free ventilation. Examine the store occasionally to pick out decaying fruits.

Apricots, Peaches, and Nectarines.—The fruit on the latest trees must be assisted to ripen by exposing them as much as possible to full light and sun. Draw the leaves which shade the fruit on one side, and remove superfluous shoots. The young wood for retaining should also be closely nailed in. While fruit remains on the trees syringing must not be practised, but immediately all is gathered it is well to thoroughly cleanse the foliage by frequent syringing. Red spider is an especially troublesome pest, but it may be largely prevented by maintaining the roots moist, mulching, and syringing whenever it is possible to do so without injuring the fruit.

Strawberries.—Beds in various stages of growth need attention at the present time. The oldest beds must, if they are to be retained for another year, have the mass of runners cut away. If this has been done early in the season it will be necessary to do it again, pulling up all weeds at the same time. When the ground has been cleaned, afford a liberal dressing of manure. Spring planted Strawberries will also need the runners cutting away. A mulching for them now will afford food for building up stout crowns, but applied earlier it might cause too luxuriant growth where the plants have not fruited. Recently planted Strawberries as they become established throw out runners which should be cut off.

If planting has still to be done good plants must be selected from among the runners which have rooted in the soil, but it is desirable to have them from plants which have fruited well and not from barren, worn-out plants. It is the general custom, however, to prepare runners for planting by pegging them down into pots, turves, or on prepared soil, thinning out the weakest early. When planting now or during the autumn is not convenient, a stock of plants should be preserved in nursery beds. There they may be inserted about 6 inches apart for standing through the winter. On good ground they form roots in abundance, and are in excellent condition for spring planting.

Outdoor Vines.—The growths of Vines on outdoor walls must not be allowed to crowd unduly the main canes or rods which are intended to be retained. Prune back all lateral growth, so that the young rods can receive all the light and sun available. This is important in the case of the long rod system, for the full extent of cane left at the winter pruning must be thoroughly ripe and hard. White Grapes require plenty of light and sun to ripen well, but black varieties finish best under a good spread of foliage. As the fruit ripens it must be netted if likely to be attacked by blackbirds. Small-mesh netting is the best, fixing it away from the bunches or they will reach the fruit even through the netting.

Preparing Ground for Planting Fruit Trees.—The advantage of preparing the soil early in the autumn for fruit trees is obvious when the time for planting arrives. There is no delay while the ground is being prepared, but every favourable opportunity can be taken to plant trees. Early preparation is recommended, chiefly because the digging and trenching necessary can be effectually carried out. Deep stirring of the soil is advisable, but it is not desirable that the subsoil should be brought to the surface and the best soil buried. Except to the very poorest soil manure ought not to be applied, for it causes rank and luxuriant growth. For Raspberries and Blackberries the soil may be made both deep and rich.

FRUIT FORCING.

Cucumbers.—The temperature should be maintained at 65° by night and 70° to 75° by day, with a rise of 10° to 15° from sun heat. Remove unhealthy leaves and old growths, and train the young shoots somewhat thinly, pinching them at a joint beyond the show for fruit. Employ the syringe sparingly, only damping the foliage on bright days and early in the afternoon, so that it may become dry before night. Damping the paths and walls will require to be done in the morning and again in the evening. Pot seedlings as they become ready, and keep them near the glass to insure sturdy growth, pinching out the growing point of those required for covering low trellises at the second rough leaf; others train with a single stem, securing to a small stick, rubbing off the laterals to the extent of the stem required to reach the trellis. Be sparing with moisture to plants in pits and frames, maintaining the temperature by linings renovated as required, closing early, and employing a covering of mats over the lights on cold nights.

Peaches and Nectarines.—*Early Forced Trees.*—The leaves being off, or nearly so, complete rest should be aimed at by keeping the ventilators open constantly, and if the roof-lights are movable they may be withdrawn for a time. This prevents undue excitement of the buds, and has an invigorating tendency, as the trees get thoroughly cleansed of dirt, red spider, and thrips; and frosts prove destructive of brown scale, while the borders become thoroughly moistened by the autumn rains. If the roof-lights cannot be removed, see that there is no deficiency of moisture at the roots of the trees, for though the impression prevails that dryness accelerates the ripening of the wood, it is fatal to the proper formation of the buds, and often gives a check, causing them to fall later on. The soil should never be allowed to become dry at any time, but a lessened supply of water will suffice when at rest than during growth. When the leaves have fallen the trees may be pruned. Only the strong growths that have not the points well matured need be cut back.

In all cases be careful to shorten to a wood bud, not being deceived by a double or triple bud, as these are all sometimes blossom buds, especially on trees of a floriferous habit, induced through a somewhat stunted growth. Where ordinary attention has been given to disbudding, laying in no more wood than is necessary for the succeeding year's fruiting, and for the extension of the trees, also removing fruited and other unnecessary parts after the fruit was gathered, very little pruning will be required. Thoroughly cleanse the house, and if the trees have been infested with red spider or other insect pests dress them with an insecticide, as many, especially red spider, will secrete in the rough portions of the bark and in the woodwork.

If the trees have been badly infested repeat the application before they are secured to the trellis. Remove the mulching or loose surface soil, and supply fresh loam, having a handful of some approved fertiliser sprinkled over each square yard of surface. This will be washed in either by rains or watering, and sustain the trees at blossoming time and the early stages of the fruit swelling. Partial lifting of weakly trees will be necessary, and should be done before the leaves have fallen. In the case of trees that do not ripen the wood well the roots should be carefully lifted and relaid in fresh soil near the surface. If the drainage be defective it should be rectified, and where the trees are altogether unsatisfactory lift bodily and replant in properly prepared borders.

Successional Houses.—In those where the crops were ripened in June the leaves will be cast, and the trees and houses should be treated similarly to those earliest forced. Trees that ripened their crops in July and August will now have the buds plumped, and the wood being ripe, the roof-lights may, if movable, be removed as soon as the leaves give indications of falling, or towards the close of the month. If the wood does not ripen well keep the house rather close by day when there is sun, and open the ventilators fully at night. Any weakly trees that do not plump the buds may be assisted with weak liquid manure. Trees from which the fruit has recently been gathered should not be neglected for removing the bearing wood of the current season, ventilating freely, watering inside borders, all outside ones as may be necessary, and occasionally syringing the trees and applying an insecticide, as insects must not be allowed to obtain and retain a hold on the trees.

Late Houses.—Trees swelling their fruit will need the borders moist and mulched, and those with the roots in outside borders must not be neglected if dry weather prevail, and if carrying heavy crops liquid manure may be given until the fruit commences to soften. When all the fruit has been gathered remove the shoots, not being extensions, that have carried the crop, and if the wood is not in a satisfactory condition as to ripening gentle fire heat with a circulation of air will be advisable, especially in the case of late varieties. The midseason varieties will ripen the wood if the autumn be favourable, but if cold and wet the trees are benefited by gentle warmth and a free circulation of air. This is necessary in cold localities, particularly with the very late varieties.

Strawberries in Pots.—The plants are making good progress, the earliest having the crowns sufficiently plumped for the detection of those that will not be available for early forcing. Those for this purpose should be separated from the rest and given sufficient space for the foliage in the most favourable position—a sunny sheltered one—for maturing the growths. The others also must have the pots wide enough apart to allow of the sun and air having free access to the foliage. The crowns in some cases are numerous, and should be reduced to the central one or two where large fruits are desired, not deferring it until they have attained to a considerable size, but be attended to as soon as they can be detected, and removed sideways with a bluntly pointed piece of hardwood stick. This will concentrate the vigour in the main crowns; those will afford strong flower spikes, and then by selecting the largest and best formed flowers, and carefully fertilising them at the proper time, a crop of large, shapely fruits will be insured. Any late runners may yet be potted, and with good attention they will be serviceable for late work in 5-inch pots, and may afford fine fruit, and collectively as full a crop as those in larger pots. Worms and weeds are troublesome, also runners. Lime water will expel worms, and weeds and runners can be promptly removed.



MAKING SYRUP.

SYRUP for autumn feeding should be made as thick as possible. If made thin, such as is recommended for spring feeding, much useless moisture would have to be evaporated by the bees. Syrup for autumn and winter feeding is best made in the proportion of 14 lbs. of sugar to six imperial pints of water. This should be placed over a clear fire and kept constantly stirred until it boils. It must not be allowed to boil for more than two minutes, when it may be removed from the fire to cool. During the boiling process, or as soon as it is taken off the fire, a little salt and vinegar should be added, a teaspoonful of the former and a tablespoonful of the latter will be ample. If sugar is boiled too long it will candy, but the vinegar will prevent this taking place.

The above plan is recommended where there are only a few colonies of bees kept. Where the apiary is large, containing two or three dozen stocks, it is a great saving of labour to empty a 2 cwt. bag of sugar into a large copper and boil it all at once. When working on these lines in our apiary we first measure the water and place it in the copper, and allow it to boil before adding any sugar. The sugar is then gradually shaken into the copper, and kept constantly stirred. This is important, as should the sugar burn the bees will not take it readily. As soon as the boiling is over the fire should be drawn from under the copper, and the syrup will gradually cool. If a strong fire is allowed to burn too long the syrup will evaporate and may become too thick, in which condition it is not so easily taken by the bees.

FEEDERS.

There is a great variety of feeders. The best for autumn feeding are those that will hold at least a dozen pounds of syrup, will not allow an escape of heat from the brood chamber, and which allow the bees ready access to the syrup. When feeding is done on a small scale an inverted bottle, having a wide mouth, and holding a couple of pounds of syrup, answers all the above requirements, and is the warmest of all feeders. For this reason they are often recommended for spring feeding.

When numerous colonies have to be fed a different feeder is required, and for this purpose there is nothing we have tried better than the Canadian rapid feeder. This is of very simple construction, being made of a number of slats of wood, which are fixed in a frame and then placed in a tin-lined box. The feeder is put on the tops of the frames after the removal of the quilt and coverings. The bees gain access to the food through openings on each side, and as there is ample bee space under the feeder, they are enabled to carry the syrup down at a rapid rate. The bees are prevented from escaping by using a wooden lid to the box.

We have lately experimented with some rapid feeders made of zinc instead of wood. The bees, however, did not take readily to them, and in some instances refused to carry the syrup down into their combs. This was observed only in those of large size. The zinc being cold was probably the cause of this.

In other instances where small zinc feeders were used and placed on the top of the quilt, through which a hole was cut about 2 inches in diameter, so that the bees gained access to the syrup through the middle of the feeder, was a perfect success. These feeders are useful for either autumn or spring.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

H. Cannell & Sons, Swanley.—*Bulbs.*

A. Cross & Son, Ltd., 16, Hope Street, Glasgow.—*Flowering Roots.*



- All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Maggoty Plums (T. W. O.).—The light coloured Plum arrived in a mashed state through being fully ripe, if not over-ripe, when placed in the box, and then not packed to prevent its moving to and fro during transit. In the state in which it arrived we should consider it unfit for human food, as portions of the fruit were in a decided state of decay. The red Plum was firm and not decayed. The maggot had escaped. Hundreds of thousands of such fruits are cooked and eaten, and we suspect are no more harmful than a mild form of maggoty cheese; but all the same, fruit free from all such infestation is in every way, and for every purpose, much preferable. See reply to "C. C. E." on page 220, last week.

Malmalson Carnations (Subscriber).—Princess May, Mdle. Warocque, and Princess of Wales greatly resemble each other in their tendency to produce flowering shoots so freely that it is often extremely difficult to obtain good layers. This tendency becomes more and more pronounced if flowering shoots are continually layered. It is therefore obvious that special treatment ought to be resorted to. The plan successfully adopted by many growers is the following:—Early in spring, when the young plants are growing freely, set apart a few for stock; these are cut down to the point where the side shoots appear, and as the main stem has been cut away the plants do not flower, but concentrate their energies in the production of good layers, which are early and usually sturdy. Some of these cut back plants are also potted to form large plants the following year, and after thinning these supply many useful layers of the right type. By following the course above indicated you will in time get over your present difficulty.

Propagating Cedar of Lebanon (E. L. L.).—The seeds, as far as we are aware, do not perfect in this country. Next to seeds, grafting is, perhaps, the best means of increase. Leading growths—the tips of the upper branches being selected for the purpose, not those of the horizontal limbs, as is often done, for they seldom produce erect growths. The grafting is best performed on Mount Atlas Cedar (*Cedrus atlantica*) stocks, as on Larch the trees are very subject to its disease, operating in the spring by veneer-grafting in preference to cleft or wedge, the plants being placed in a close frame until the scion has knitted with the stock, then hardening and planting out. Cuttings of the current year's growth, taken with a heel, and inserted at the end of September at the sides of 6-inch pots in sandy soil surfaced with sand, plunging in a close frame in a cool house, or one from which frost only is excluded, sometimes, but not always, form a callus by spring. In spring these must be placed in gentle heat, and roots will be speedily emitted; the plants can then be potted singly, and when well rooted hardened and planted out. Layering can only be practised on branches that can be brought down to the ground, the parts being ringed—that is, the bark taken off about half-inch wide, and not quite round the branch, this portion being placed in the soil about 3 inches deep, and secured at the point with a peg. A callus forms by the descending current, and from this roots are emitted. If you can get at an erect branch, partly ring it, introduce it through the hole of a flower pot so that the barked part will be about two-thirds from the top, and fill with soil, but leaving space for holding water, and in the course of a year you may secure a callus; then detach, say in early spring, and place in gentle heat, so as to accelerate growth and promote the emission of roots.

Caterpillar on Apple Twig (J. T.).—The caterpillar is that of the brimstone moth (*Rumia crataegata*), which is comparatively common on Whitethorn hedges, but it may also be found occasionally on Rosaceous plants in the orchard and garden, but seldom in such numbers as to do any appreciable harm. When at rest it much resembles a piece of stick, and is remarkable for the fact of having eight pairs of claspers, and only using two pairs. The specimen is an exceedingly fine one.

More Remuneration (Pardam).—There are thousands like you who have, or think they have, "a natural taste and aptitude for horticultural pursuits," and who desire to find more remuneration than you have found in farming, including several years' experience in a distant colony. We wish we could tell you and them where and how to accomplish the desire. You, however, appear to be endowed with more enterprise than some persons in being willing to go anywhere, no matter how distant the colony, and your agricultural experience ought to be of service to you in distant lands if you can find a position in which you can settle down. The address of the gentleman is embodied in the article to which you refer, and you are quite at liberty to write to him for information. See "Situations Vacant" in our last issue.

Swellings on Vine Roots (G. P.).—The swollen parts on the young rootlets are caused by the Vine louse, *Phylloxera devastatrix*, for which we advise watering the border with ammoniacal liquor from gas works, diluting with twelve times its bulk of water, and giving as much as in an ordinary watering, say 3 gallons per square yard. In a week follow with clear lime water, and in about the same amount. As there will be some smell and ammonia given off by the gas liquor solution, air top and bottom must be freely admitted until these have passed off. If you cannot do this on account of the Muscats, give a good soaking of water at a temperature of 150°, in this case also ventilating top and bottom and day and night, with a gentle warmth the hot-water pipes so as to promote a circulation of air and prevent the deposition of moisture on the Grapes.

Poinsettias Losing their Leaves (E. A. W.).—The cause of this has not been satisfactorily explained, and is a very common and great defect to the appearance of the large heads of glowing bracts. It generally arises from defective root action and deficiency of nitrogenic elements in conjunction with phosphoric and potassic. We have made many experiments, and find a mixture of nitrate of potash twenty parts, phosphate of potash twenty-five parts, sulphate of potash ten parts, and nitrate of ammonium thirty-eight parts, mixed, using not stronger than one ounce to two gallons of water, very valuable. It gave luxuriant foliage and large bracts, but it is advisable to omit the nitrate of ammonium until the bracts show, as this favours leafage more than flowers. The articles are hardly in commerce, being for the most part too dear for general use; still they are the best we have found for the purpose, the roots being in a healthy condition, either overdryness or wetness of the soil having a very prejudicial effect.

Flowers in the London Parks (Dr. Capart, Belgium).—There are so many beautiful arrangements of flowers in the various beds of the different London parks that it is difficult to suggest in what way you could obtain particulars of the combinations that pleased you the most. If you can indicate their character, and name the park or parks in which they were displayed, we will gladly endeavour to obtain the information. Methods of planting change every year, and there is no book in which they are published. A few examples of what impressed a correspondent as effective arrangements have appeared in our columns, page 187, August 31st, and more will be found on page 236. We presume you have obtained that particular issue after sending your inquiry; if not, it shall be sent to you. As indicating the numerous methods of associating flowers in summer, Mr. E. Kemp Toogood, Southampton, gives 100 examples in his list of "beautiful beds," but though these are suggestive and unusually varied not one may be such as you require. We are sending you a copy, and shall be pleased if we can assist you further in any way through our columns.

Renovating a Vine Border (R. A. C.).—1, It would be advisable to begin the renovation of the inside border as soon as the Grapes are out, or when the leaves give indications of ripening. In the case of early forced Vines we have operated whilst the foliage was quite fresh, the wood being hard, brown, and ripe, with the result of securing fresh rootlets by the time the leaves were all down. Late Grapes are different, the wood of the Vines not being quite ripened and the foliage still capable of performing some of its functions; hence it is not advisable to lift the roots until the leafage gives indications of maturing, and even then it is necessary to shade the house and keep the roots covered with damp mats. When only partial lifting is practised the work may be performed much earlier, as the check will not be such as to cause the immediate or total collapse of the foliage, which should be strictly guarded against. 2, The artificial manure should be put on when the operation of renovating the border has been completed, sprinkling it on the surface of the finished border, scratching it in with a fork or rake very lightly, and then place on the inch mulching of manure. This is better practice than scattering it on the manure and mixing with the latter by fork or rake. 3, It would not be good practice to mulch the outside border with a 12-inch thickness of manure in the autumn, as from the condition of the Vines the food washed out by rain would not be of a suitable nature, there being already a probable excess of organic acids. The dressing of the fertiliser and an inch mulching of short manure are likely to be more effective, for the heavy coat of manure would deprive the border of air, which is essential for the oxidation of the soil constituents and the resolving of them into available plant food.

Marmalade (*W. R. Raillem*).—The term marmalade is from the Portuguese *marmelada* and that from *marmelo*, meaning "Quince," is a jellied or gelatinous preparation made from Quinces, Peaches, Apricots, Oranges, &c., and portions of their rinds, with a mixture of sugar and spice. Marmalade is made like the ordinary jams, poured out warm into pots or jars, and sold in commerce as a confection. The best kinds come from Italy, France, East and West Indies. The common kind of marmalade in this country is that made from Bitter or Seville Oranges. The term marmalade was unquestionably first applied to the jellied substance made from Quince, but that is no reason why that made from Vegetable Marrows should be equally entitled to the distinctive name, hence our definition would hold good of that of the Quince.

Names of Fruits.—*Notices.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. (*C. H. B.*).—The Pears are perfectly green and have the stalks broken; please read carefully the instructions above before sending again. 1, resembles Beurré d'Arenberg; 2, possibly Marie Louise d'Uccle; 4, probably Winter Nelis Apples; 3, a form of Blenheim Pippin, probably Cobham; 5, defective, no stalk, possibly Cox's Pomona; 6, not known and useless, probably a local seedling. (*J. S. N.*).—1, Irish Peach; 2, Yorkshire Greening; 3, Lord Suffield. (*D. C. R.*).—1, Warner's King; 2, Reinette du Canada; 3, Gloria Mundi; 4, Alfriston; 5, Cellini; 6, Tibbit's Incomparable. (*J. W. P.*).—1, Five crowned Pippin; 2, Dr. Harvey; 3, Mère de Ménage; 4, Winter Hawthornden; 5, Hollandbury; 6, Tower of Glamis. (*Cedo Nulli*).—1, Cox's Pomona; 2, Irish Peach; 3, King of Pippins; 4, Old Hawthornden; Pear Souvenir du Congrès. (*L. J. P.*).—1, Manks Codlin; 2, Calville St. Saviour; 3, unrecognisable; 4, Golden Noble; 5, Cellini; Plums cannot be named with specimens of the young wood, the fruit resembles Orleans. (*T. C. R.*).—1, Warner's King; 2, Alfriston; 3, Peasegood's Nonesuch; 4, Lane's Prince Albert; the Pears are quite hard and green, and cannot possibly be identified. (*T. L.*).—1, Mère de Ménage; 2, New Hawthornden; 3, Calville Rouge d'Illiver; 4, Keddleston Pippin; 5, King of Pippins; 6, American Mother.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. T.*).—1, Possibly a Pellea; 2, Pteris argyrea; 3, Woodwardia radicans; 4, a Davallia; 5 and 6, quite useless for purposes of identification. When sending again please read the rules above, and enclose your name and address with the specimens. (*J. R. M.*).—1, Cephalotaxus pedunculata; 2, Cupressus Lawsoniana glauca; 3, Libocedrus decurrens; 4, Juniperus communis fastigiata; 5, J. sabina tamariscifolia; 6, Cupressus Lawsoniana var.

COVENT GARDEN MARKET.—SEPTEMBER 13TH.

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	10	20	Lettuce, doz. ...	18	20
Aubergine, per doz. ...	16	20	Mu-brooms, lb. ...	06	10
Beans, 1 sieve ...	26	36	Mustard and Cress, punnet	02	00
" Scarlet, sieve ...	26	30	Onions, bag, about 1 cwt.	40	48
Beet, Red, doz. ...	06	00	Parley, doz. bunches ...	20	40
Cabbages, per tally ...	70	00	Pears, per bushel ...	60	80
Carrots, per doz. ...	20	80	Potatoes, cwt. ...	20	60
Cauliflowers, doz. ...	20	80	Shallots, lb. ...	08	00
Celery, new, per bundle ...	19	00	Spinach, per bushel ...	00	40
Cucumbers, doz. ...	20	40	Tomatoes, per doz. lbs. ...	20	36
Endive, doz. ...	16	20	Turnips, bunch ...	08	04
Herbs, bunch ...	08	00	Vegetable Marrows, doz.	10	16
Leeks, bunch ...	02	00			

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	20	30	Peaches, per doz. ...	80	60
Cobnuts per 100 lb. ...	70	00	Pears, Californian, case ...	80	60
Damsons ...	40	60	" French Williams',		
Figs, green, per doz. ...	10	80	36 to 56 in a case	40	50
Grapes, black ...	06	80	Pines, St. Michael's, each	10	60
Lemons, case ...	14	20	Plums, English, per sieve	30	50
Me'ons ... each	06	16	" Californian, case ...	40	80
" Rock ...	19	26	Walnuts, fresh, bushel ...	20	00
Nectarines, per doz. ...	30	60			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums ...	30	40	Maidenhair Fern, doz.		
Asparagus, Fern, bunch ...	20	26	bunches ...	40	60
Carnations, 12 blooms ...	16	26	Marguerites, doz. bunches	30	40
Cattleyas, per doz. ...	120	180	Mignonette, doz. bunches	40	60
Chrysanthemums, white			Montbretia, per bunch ...	10	16
doz. blooms	60	90	Odontoglossums ...	50	76
" yellow doz. blooms	50	80	Pelargoniums, dozen		
" bunches var. ...	08	06	bunches ...	40	60
Eucharis, doz. ...	40	60	Roses (indoor), doz. ...	20	80
Gardenias, doz. ...	16	26	" Red, doz. ...	10	20
Geranium, scarlet, doz.			" Tea, white, doz. ...	16	26
bunches ...	40	60	" Yellow, doz. (Perles)	20	80
Lilium Harrisii, 12 blooms	46	56	" Safrano, doz. ...	20	26
" longiflorum, 12 blooms	40	60	Smilax, bunch ...	80	40
Lily of the Valley, 12 sprays	120	150			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitis, var., doz. ...	60	86	Foliage plants, var., each	10	50
Aspidistra, doz. ...	180	86	Fuchsias, doz. ...	40	60
Aspidistra, specimen ...	150	200	Heliotropes, doz. ...	60	90
Chrysanthemums, per doz. ...	60	80	Hydrangeas ...	60	100
Orotona, doz. ...	180	80	Lilium Harrisii, doz. ...	120	180
Dracena, var., doz. ...	120	80	Lilium lancifolium album	80	400
Dracena viridis, doz. ...	90	180	" rubrum	80	400
Erica various, doz. ...	80	60	Lycopodium, doz. ...	30	40
Buonymus, var., doz. ...	60	180	Marguerite Daisy, doz. ...	60	80
Evergreens, var., doz. ...	40	180	Myrtles, doz. ...	60	90
Ferns, var., doz. ...	40	180	Palms, in var., each	10	150
" small, 100 ...	40	80	" specimens ...	210	680
Ficus elastica, each ...	16	76	Pelargonium, scarlet, doz.	40	60

Bedding out plants in variety from 8s. doz.



SECURE.

EARLY though it is in September, yet we write this word, the "finis," as it were, to one great portion of our labour. The grain harvest is garnered, and garnered well. Few of us can remember so dry and withal so quick a harvest. As to the ultimate yield, it is yet early days to speak, and we sadly fear from some accounts that have come to hand that the threshing machine will not have a very good tale to tell.

Town friends congratulate us on our fine harvest weather, and they are sincere in their good wishes; but none of them has the slightest idea how much we mean when we tell of a dry, fine harvest month. From the time the precious seed is dropped into the mellow brown earth in the autumn till the thatching is done the next autumn, the farmer rarely knows what it is to be free from an anxious care. He can do so little, is so powerless to avert calamity, or to promote growth.

The birds of the air are as busy as in days of old, and seem to know by instinct where the new sown seed may be found. Do they understand rotation of crops, we wonder? They might do, for never a Wheat field but they find. The grain is so good, the soft earth so easily disturbed, the tenting boy so harmless, that they get a good share, more than their tenth at any rate. The larks are the greatest sinners—but we forgive much to the little brown bird that does his best during spring and summer to raise our thoughts and hopes heavenwards.

A wet autumn is very disastrous, especially to those who farm strong, cold lands. Moisture is necessary, but it is wonderful how little will start the grain into vigorous growth. We have seen so

much damage done from excess of wet, whole fields ploughed up in the spring because there was not plant enough to make a decent covering, that we can speak feelingly. Nothing helps Wheat on better than a snowy coverlet, affording protection from nipping frosts, and allowing the green shoot to get safe away. Wheat on good deep land is better with little or no rain during the summer months. Late frosts with hot days materially affect the yield, and tempestuous storms in June and July will flatten splendid crops beyond hope of recovery.

This is one of a farmer's great trials—fields of grand grain, heavy and full in the ear, gently swaying in the wind one day, the next a broken, tumbled, soiled expanse of sodden straw, with ears that cannot possibly ripen to perfection. If the sample and the straw are spoiled, the loss and difficulty does not end there. There is no more perplexing puzzle than that of reaping such a field—the straw laid every way, much as though the tossing ocean had by some miraculous stroke been transformed into a harvest field. The best of reapers stick and flounder, the men are constantly needed with scythes to do the worst bits, the heavy going for the horses shows itself in their reeking flanks and heaving sides, and when all is done (with twice as much labour as need be) the whole spectacle is a sorry one.

The life history of spring corn is shorter, but the farmer finds he has quite as many anxieties. So much has to be compressed into little time, and so sun and rain are both needed to force on the crop. To insure good Barley it should be grown without a check; and good Oats, or indeed all Oats, require much moisture at a certain period of their life history.

We shall not be surprised to find this year that there is a great deal of split Wheat; the kernels are so thoroughly dry that unless more than ordinary care is taken during threshing there must be a large percentage of grain which the miller finds difficult of manipulation. His cleaning machinery is intended for whole grains, and is not adapted for split corn. For the same reason, too, there will be complaints of flinty Barley, though it is marvellous how Barley will "mellow" in stook if subjected to a heavy downfall of rain. But that one cannot always insure.

An early harvest is generally a cheap harvest—days are longer, the dews are not so heavy, and also, we fear, this year the seeds among Barley will not have had a chance of becoming rampant. Who has not seen many a Barley field where it was difficult to know which was the reaped crop, the gigantic Clover, or the less apparent Barley? Imagine what a business it is to get all the nature out of that mass of juicy "green stuff" before there is any hope of successful stacking. If the weather break and become "slattery" the process is a long and dreary one.

There will be no necessity this year to keep certain stacks till after Christmas that the corn may get in condition—much will indeed be threshed at once, a great deal direct from the field. Well, this will save the expense of thatching, and labour is sadly scarce. To those who do thresh thus early we would give a word of caution. The dry weather will not last for ever, and the root crops being in many places so scanty the straw should be well stacked and battened down, and all chaff carefully collected and husbanded.

We have been struck this year with one proof of the unusual season; Beans were pulled and harvested earlier than we have ever seen them. Usually they are allowed to stand till the more valuable crops were secured, but being ready and perfectly dry they were mostly got out of the way before harvest proper pressed.

After harvest cares and labours comes the feast and song, and true thanksgiving. Words are not enough; actions speak louder. We whose barns are filled with plenty, we who know the "joy of harvest," should have more than a passing thought for those of our brethren who have been worsted in the fight. Alas! that there are so many of them—men and women—who have striven hard to make farming pay, and who are now practically penniless. They are indeed in such difficulties, that the modest pension of £40 per annum for a married couple, £26 and £20 respectively for single men and women, are most eagerly sought after. Over 300 candidates are

row waiting for election, many of them over seventy years of age, many helpless and cripple, and a terribly destitute. To those who are subscribers to the Royal Agricultural Benevolent, we need say little—the applications speak for themselves, they are such sad reading.

We know that the collections at harvest festivals are most wisely dispensed. The local infirmaries and hospitals should be well supported, but a few crumbs could be spared for those whose bright farming days are over—some burdens might be lightened, some tears dried. There is hardly a rural parish in broad England where there are not cases such as we mention, and English sympathy is deep and wide and far reaching.

WORK ON THE HOME FARM.

Another very dry week! True, there have been local showers, but even where they have fallen they have done little if any good. Cultivation, except by steam, is now almost impossible. Farmers are using steam tackle where it is available and a water supply for the engines is within any reasonable carting distance. There is one comfort, a little cultivation now will go a long way in the future.

The stacks are nearly all thatched, and many farmers are carting and spreading manure on the old lea which is in course for Wheat. This work is often done before harvest, but this year the crops came ripe so suddenly that there was no time. There will have to be very copious rains ere the manure can be ploughed in and the Wheat sown. Events do not point to an early Wheat drilling season, but, on the contrary, the present price added to the difficulty of sowing will encourage the farmer to once more turn his attention to Oats.

The price of Wheat straw will be no inducement for him to continue to grow the grain at 25s. per quarter, for there is plenty of straw to be purchased at £1 per ton on rails. It is not easy to account for this depression, and it is probably owing to a concatenation of causes. At any rate, there are many more straw sellers on the market than there used to be, and the portable press may have something to do with the increase of competition.

Very little new grain is being thrashed, and this is all the stranger, for farmers have little work for their men until rain comes. The weather is too hot for malting, and maltsters show little anxiety to see new Barley samples. Some of the largest buyers are abroad looking over the Continental samples, and there will not be much competition for new Barleys until they return. Reports of the yield are discouraging, there being a large proportion of small grain.

Turnips are getting worse and worse. Swedes are covered with mildew and aphides, and are almost hopeless.

The cattle markets are full of cattle and sheep, but whereas there is a fair trade for the latter, the half fed beasts, of which the beef supply chiefly consists, are becoming more unsaleable every week. Fifteen pounds will buy a big old bullock, and one that was in all probability worth more last March.

SPLENDID HOP CROP.—The quality of the early pickings of Hops, as well as of the Bramblings, now in course of gathering, is pronounced to be extraordinarily good, and there is every reason to believe that the 1899 crop, besides being the largest since 1895, will be a record one in point of quality. As to the yield, provided that the Hops keep well, so that all but a moderate proportion are picked, it is likely to range from 540,000 to 550,000 cwt. The acreage has been officially returned at 51,843 acres, against 49,735 in 1898. In all the districts there are numerous instances of a ton to the acre, while yields averaging 15 and 16 cwt. an acre are quite common. On the other hand, several of the principal parishes in East and Mid Kent will not grow a much larger crop than in 1898.—("Kentish Observer.")

The "Daily Telegraph" for Monday says: "Prospects of the Hop crop in Kent have undergone a most serious reverse. A fortnight since there was every indication of a large crop of splendid quality. Since then there is a widespread tendency for the Hops to become black-cored and worthless. One well-known planter estimates his loss at £5000. The Hops on many hundreds of acres will be left to blow away."

HOW TO GET RID OF RATS.—Take a large earthen jar, and set in the ground near a building frequented by rats. The top should be not more than an inch or two above the surface of the ground; fill this to within about 5 inches of the top with bran; place boards over it, but leave a crack wide enough for a rat to easily enter; let this stand for several days and nights, until the rats have got into the habit of visiting it; then take out the bran and fill with water to within 6 inches of the top, and on this sprinkle a covering of bran about 2 inches thick; cover as at first, and every rat that has been in the habit of visiting the jar will unhesitatingly jump in, and once in there is no escape for him; he sinks, and the floating bran hides him from sight of the next victim. By once more filling the jar with bran, and leaving it for several days before filling again with water, suspicion will be diverted. If there is no convenient place for setting the jar in the ground where it will not be disturbed, good results may be secured by placing a board in such a position that the rats can easily climb into the jar.—J. L. INNES (in "American Cultivator.")



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Journal of Horticulture.

THURSDAY, SEPTEMBER 21, 1899.

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LESSONS OF THE SEASON.

DAME Nature is a fickle mistress, but in every one of her various whims there is a lesson to be learnt, a hint to be gathered and stored for future application. Dull indeed is the man, especially the gardener, who gleans nothing by observation, and as we near the end of an extraordinary season we may have failings to recount that are not encouraging; yet surely even these have in a sense been beneficial by teaching us something. Another exceptionally dry summer is quickly passing away, records have been broken, and gardeners have had a wearying time endeavouring to keep pace with their duties. This brings me to the first note of observation—watering. Plants in pots we must water, so they form no part of the argument; but the question I ask is, do vegetables during dry summers benefit through artificial waterings to the extent some people imagine? There are gardens with a proper water system laid on which even in a summer like this have known no stint, and there are other gardens where water is a precious liquid, and consequently has had to be used in a sparing manner. A comparison of two such gardens would prove whether the root of the matter does not lie deeper than in artificial watering.

The advice given to me years ago by an observant gardener was "Hold off watering as long as you possibly can, for when you once begin it you never know when you can stop," and I have proved the wisdom of this more than once. I have done little watering this season, though I do not say I should not have done more had I been in possession of the commodity, for it is hard to see crops go off prematurely, presumably for the want of liquid. There are two operations, however, which never do harm in the wettest of seasons and are of untold benefit in times of drought, and to tell of them is only to preach an old sermon over again. They are deep cultivation and the liberal use of manure, not placing the latter just under the surface to be dried and baked by the first week's sunshine, but lower down, where it forms a storehouse of food and moisture for roots when surface supplies have run out.

Here we come to another point—When is the best time to manure? It is questionable whether much money, to say nothing of labour, has not this season been spent on manure to very little purpose, for the simple reason that its good qualities have never been abstracted from it, through the drought. In several instances I have observed that when Potatoes were being lifted from land manured just prior to planting, the intended food came out in much about the same condition as when it was put in, whereas in ground double-dug and manured during the previous autumn and winter scarcely a trace of it could be seen. This teaches us that spring manuring is not the better method when followed by an exceptionally dry summer. I do not think it was so much the anticipation of a long drought as the knowledge that I had no water if it did come, which prompted me to bastard trench all vacant ground last winter, and when breaking up the bottom spit to work in a dressing of good old-fashioned manure from the farmyard. Peas and Beans have borne well, while Carrots, Parsnips, Beet, and Onions are all good crops, in spite of the drought, with foliage healthy and green, showing a marked contrast to some scores of gardens and allotments I have seen.

We have arrived now at a kind of stock-taking time when we must look round and see how we stand for the winter. A good supply of greens is the backbone of the vegetable garden, and in providing this, or at least trying to do so, we have had several persistent enemies to cope with—one the dreaded caterpillar, another the equally dreaded flea, which is in reality a small beetle. I have never known either of these pests to be so numerous, and rarely have they done more damage. It is aggravating to have a nice bed of autumn Cabbage, for instance, which you consider will just turn in right, and then to see them riddled, mutilated, and devoured by hordes of hungry caterpillars. You may spray the greens, dust with lime and soot, kill butterflies, and yet they seem to come, and you have to fall back, if the greens are to be saved, on the simplest but most efficient remedy—picking off the caterpillars, and it is surprising what a couple of boys, working apart, of course, can do in this direction. The flea is another matter. He is a hard-backed rascal that revels in sunshine and turns the leaves of Cabbage and greenstuffs brown and sickly by his ravages. The remedy seems to lie in deep cultivation after the crop is off, applying to the land a heavy dressing of lime. Again, we have had a useful lesson taught by the season on the wisdom of early planting for Winter Greens.

The crop that has beaten many gardeners this year has been Turnips, and I never remember a season when they have been more difficult to grow. The first crop was all right, but after then it seemed hopeless. No sooner was the growth above ground than it was razed off by the flea, and if in a damp situation, and by constant moistening and dusting the plants struggled through to something approaching maturity, the roots cut woolly and strong, almost destitute of that sweet flavour which characterises a Turnip grown under favourable conditions. Those who have attended many flower shows will have had an opportunity of noticing the scarcity of Turnips. In many instances the class has been empty, and in others the produce has been so inferior as to be quite unworthy of an award. These successive seasons impress on us more and more the much felt want of some means of being able to successfully combat the Turnip flea.

If there is any feeling of real satisfaction this year it is over the Potatoes, and the lesson learned is that the indispensable tuber loves a dry summer. There have been complaints about the tubers being small, and perhaps, so far as the early crop is concerned, the grumble was justifiable. But we are now digging the later sorts, and are gratified with the heavy crop of even, good-shaped tubers, with no trace of disease, and hardly a speck of scab. In the south, the tops showed signs of decay before August was out, and where they still look green an examination is advised, for this season second growth is very prevalent. As I am only generalising I will not dwell on varieties, except to say that we have every reason to be satisfied with all well tried sorts.

But one lesson only suggests another, for there are so many to be learnt at the end of a summer such as we have just experienced. There may, however, be enough in the above observations to provide food for thoughtful ruminations, and perhaps bring forth experiences and suggestions that will be useful.—G. H. H.

TOMATOES.

IN common with most other Solanaceous plants, Tomatoes are easily grown by anyone as far as an abundance of foliage is concerned, but to obtain good fruit is quite another matter. Many crops of what might have been good fruit are spoilt every year, and the editors of the gardening press are worried by samples of different diseases, which are often more the result of mismanagement than anything else.

A failure with Tomatoes is caused by one of three things, or perhaps the three combined—overbreeding, overfeeding, and planting too closely. There is danger to be apprehended from the first in the immediate future, as new sorts are raised every year, and each one is an advance in form, size, or colour upon those which have preceded it. But it is to be feared that this advance has been in fruit alone, and that the plant itself is gradually getting weaker and becoming more and more susceptible to some of the fungoid diseases which so readily attack plants that are not constitutionally strong. It may be urged that the plants are as strong now as they used to be, but are they? The greater spread of disease among Tomatoes during the last few years points unerringly to weakness, which will have to be reckoned with in the future. Any sort which shows signs of weakness through being too highly bred should be discarded, and only those kept which are of good constitution.

The two other causes of disease are more apparent, and therefore can be readily dealt with. The Tomato is a strong growing plant, especially if in good, rich soil, where it makes many leaves which have to be cut away to induce it to fruit. But it is rather poor policy to grow leaves only for the rubbish heap, to say nothing of the severe check given to the plants by removing from a half to two-thirds of their leaf surface at a time. This tends to weaken the plants physically (a different thing from constitutional weakness) and to render them a prey to any fungus spores looking for a home.

Tomatoes when planted out should be put in a rather poor soil, and no manure of any sort ought to be mixed with it. Fresh stable manure especially must be avoided, and the soil should be made up in ridges like those for Cucumbers or Melons. The plants may be kept to a single lead, and all side shoots be removed. When the first fruits are swelling nicely, liquid manure should be given at each alternate watering, or a top-dressing of soil with some artificial manure mixed with it may be used. The manure is required for the fruit, not to make the plants grow, as the Tomato will grow fast enough without help from stimulants. Grown in this way, the plants make short-jointed, firm wood, with plenty of fruit; very different from the soft, sappy stems of those treated too liberally from the first.

The evils of planting too closely are easily seen. Tall spindly plants, with a few fruits at the top; no circulation of air to keep the plants dry, and no sunlight on any part but the extreme top soon invite disease, which spreads through the close ranks with great rapidity. Each plant should be at least 3, or even 4, feet from its neighbours on every side, so that each one can have the full benefit of all the light and air necessary for its welfare. Half the number of plants in a certain properly apportioned space will yield double or treble the amount of fruit that twice the quantity would, and the fruit will be of far better quality as well.

To sum up, good sound varieties should be used, the plants must have plenty of room, and manure ought only to be used to assist the plant in the development of fruit. If these three points are carefully attended to, the various fungoid diseases of the Tomato will not cause much trouble to the cultivator of what has grown from a luxury of the few to be a necessity of the many. Prevention is better than cure.—C.

ZIZANIA AQUATICA.—The tropical weather of the past few months appears to have suited this North American aquatic perfectly at Kew, where large clumps are to be found in various places. The best clump is in the new Nymphaea pond in the arboretum. In that place it has grown to a height of 9 or 10 feet, with a diameter of the same extent. In general appearance it is a graceful plant, with arching leaves 3 to 4 feet long by 1½ to 2 inches wide, surmounted with large plumes of flowers. The inflorescences are in many cases 18 inches long and a foot through, composed partly of yellowish, inconspicuous female flowers, and partly of reddish male flowers, the males predominating and showing very conspicuously above the deep green foliage. From an ornamental point of view it is worthy of a place among the best of plants for the margin of a pond or lake, and if the difficulty of getting the seeds to germinate can once be overcome, it is little or no trouble afterwards. Although by no means a new plant, it is very uncommon, the seeds appearing to lose their vitality very quickly after ripening. If, however, seeds can be ripened in England, and sown as soon as ripe, it will doubtless be popular, being quite distinct from the ordinary run of water plants, and making a bold and imposing feature in a very short time. It should be planted in good loam, and the roots ought to be a few inches under the water.—W. D.

**CATTLEYA LUDDMANNIANA ALBA.**

At the meeting of the Committees of the Royal Horticultural Society held in the Drill Hall, Westminster, on Tuesday, the 12th inst., very few Orchids were exhibited. This was a change from the grand displays that have become the rule, but no more could be expected at this season of the year. Amongst those shown were one or two of much beauty, and standing out conspicuously above all was *Cattleya Luddmanniana alba*, which had been sent by Mr. W. H. Tindale, gardener to E. Duckworth, Esq., Shaw Hall, Flixton, Manchester. A more chastely beautiful Orchid could scarcely be conceived, and the Committee's appreciation took the form of the recommendation of a first-class certificate. It is a true albino, inasmuch as it is wholly glistening white, save for a touch of soft yellow on the side lobes of the throat. The flower is portrayed natural size in fig. 49.

AUTUMN ORCHIDS.

ALTHOUGH during the late summer and autumn months Orchids in flower are far less numerous than at any other time of year, it is consoling to find that among them are some of the brightest and most beautiful kinds in existence, while the paucity of bloom is in a manner made up for by the interesting state of the plants themselves. The true Orchid lover finds as much pleasure in his houses when nothing is in flower as when very gay, though the fact remains that to most growers the flower is the aim and end.

Foremost among the Orchids that flower now is the beautiful *Cattleya aurea*, and its lovely crimson purple lip with golden network as it were thrown over it forms one of the most delightful of contrasts in the world of Orchids. Among the *Masdevallias* of the showy flowered section there are several that flower now, and the glowing *Disa grandiflora* may also be mentioned, as well as the hybrid *M. Veitchi*, one of the best. In the same house probably the pretty *Epidendrum vitellinum* will be throwing up its richly tinted spikes of vermillion and golden yellow. What a useful and beautiful kind this is! and there are few that keep up a display over so long a season.

Among the *Odontoglossums* and *Oncidiums* are many fine autumn flowering kinds, and those who had a careful look at some of the large groups at Shrewsbury must have noticed how delightful Orchids are when used in a natural and tasteful way amid refreshing looking greenery, instead of being jammed down in a crude mass of colour, as we see them at the Temple and other shows when Orchids are plentiful. Mr. P. Blair's *Oncidium macranthum*, rambling about amidst the stems and foliage of his Palms, was a very delightful instance of this pretty and natural style of grouping.

A section that cannot be left out of the briefest *résumé* of the Orchids that flower now is the beautiful *Odontoglossum grande* and similar kinds, such as *O. Insleyi* and *O. Schleperianum*. Here are splendid species for the amateur and beginner, for the plants flower and do well in an ordinary cool fernery—not a dry greenhouse—and keep up a long continued display. One may write of the beauties of these and other autumn blooming species; but a mere mention of them is rather bald reading, and I think I have mentioned enough to show that the Orchid house in autumn is not quite a barren waste.

AERIDES GODEFROYE.

This pretty plant is a near relation of *A. roseum* and others of that ilk, a fine thing when it does well, but a little more difficult than *A. odoratum* or *A. Fieldingi*. Not that any trouble will be found in getting it to grow; the trouble is often to keep the leaves on after the plant has been grown. The best way to do it is not to place it in too much heat and shade. Sun heat in autumn it delights in, and this keeps the leaves hard and in likely trim to stand the slight checks

almost inseparable from our artificial winter treatment. The plants should be kept well up to the glass in a light house. The spikes are not unlike those of *A. Fieldingi*, but without the arch, and the blossoms are a pretty rose tint. It is a native of Cochin China, introduced by Mons. Godefroy of Argenteuil.

EPIDENDRUM CILIARE.

This is one of the oldest of known Orchids, and has never been particularly popular, but it is certainly worth growing as a distinct and pretty plant. The flowers are white, with a very beautifully fine bristled lip, and these last a long time in perfect condition. This makes it very useful when it flowers now, but though I have noticed it in bloom in several collections recently it is by no means constant as an autumn blooming Orchid. Grown in a cool intermediate house, with ample light and air, and a distinct season of growth and rest, it will flower well annually, but in more heat and moisture it keeps growing all the time, and flower spikes are rarely seen. The plant has the habit of, and is sometimes imported with, one or other of the labiate *Cattleyas*. Its

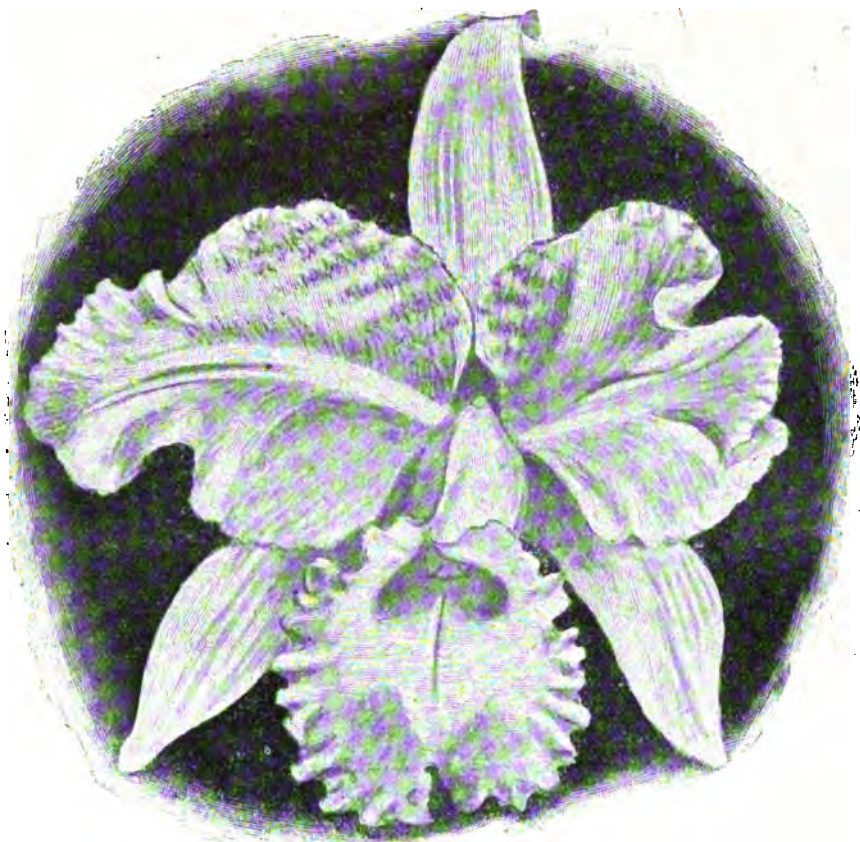


FIG. 49.—CATTLEYA LUDDMANNIANA ALBA.

habitat extends over a great expanse of country in tropical America, and it was in cultivation both at Kew and other places before the present century opened.

LELIA DAYANA.

Very fine just now are the brightly tinted flowers of this Orchid, which is one of those kinds that are much better cultivated now than formerly. I have seen it flowering very freely this week, and the bright tint in the lip makes it easily distinguishable from anything else now in flower. The best plants I have seen were grown suspended from the roof in small wood baskets, and kept in a moderately cool house. Here they did not suffer from spot in the least, and though imported at least half a dozen years, are more vigorous now than the first season. It is a native of South Brazil, and was introduced by Messrs. Low, through their collector Mr. Boxall, in 1876.—H. R. R.

BULBS FOR THE LONDON PARKS.—Messrs. James Carter & Co., High Holborn, inform us that they have again received orders to supply the bulbs required for flowering next spring in the Royal Parks of London, including Hyde Park, Regent's Park, St. James' Park, and Kensington Gardens. They have been similarly instructed by the London County Council to furnish the bulbs required for the parks and gardens under its control.

HYDRANGEA PANICULATA VAR. GRANDIFLORA.

WHEN well grown this is one of the handsomest hardy plants we have that flower in the autumn, making a fine display with its large panicles of pure white flowers, but unless properly treated nothing is more disappointing. To obtain the best results the plants should be cut down each winter, and the shoots in the following spring thinned out to six or eight of the strongest. These ought to be staked out singly when they have attained a length of about 18 inches—when fully developed they are from 4 to 5 feet high. The immense panicles of flowers are from a foot to 18 inches long, and 6 inches through at the widest. The flowers are for the most part sterile, but some of the smaller fertile flowers can usually be found mingled with them.

When the buds begin to show a good top-dressing of mixed cow and stable manure should be given, and the plants must never be allowed to get dry at the roots. Propagation is effected by cuttings of half-ripened wood, which should be inserted in sandy soil, and placed in a close frame. To provide cuttings a plant or two ought to be allowed to grow without being checked, as stock is difficult to obtain from those which are cut down.

This Hydrangea is also trained sometimes as a small standard by growing the rooted cuttings until they reach a sufficient height, and then stopping them to form a head. The panicles, however, are not so large, and the plants are more liable to be broken by high winds.—C. J.

STANDARD MIGNONETTE.

STANDARD Mignonette is not grown to the extent it should be. Good plants are exceedingly enjoyable by their graceful appearance and fragrance, and they continue attractive for a very long time. Having had much experience in growing these plants, I will endeavour to impart the details of culture, which may be of service to some readers.

For producing the best results seeds should have been sown three weeks or a month ago, but there is still time if no delay occur for producing good plants. Prepare as many thumb pots as of plants required; sow three seeds in each in loam and leaf mould, and place in gentle heat to germinate. As soon as the seedlings appear watch carefully for any appearance of slugs, and to prevent their depredations shake soot or lime about their haunts. As soon as the plants are large enough to determine the strongest, draw out the others, leaving one plant only in each pot; keep them near the glass, and gradually increase the amount of air to harden and prepare them for a cold frame. I find Miles' Spiral a good variety to grow.

As soon as the seedlings are well rooted they should be transferred to 3-inch pots, using for a compost decayed leaf soil and fibrous loam in equal parts, with a liberal addition of sand. When turning the plants out be careful not to disturb the roots more than can be avoided, or the plants will experience a check; place a small stake to each, and remove to a cold frame, where they should be kept close for a few days until established. A north aspect, behind a wall if practicable, will be found a suitable place for the frame, which should be filled to within 6 or 8 inches of the top with coal ashes, and as the plants grow the ashes can be lowered accordingly.

As the plants grow they will produce side shoots; these must be nipped off close to the stem. When the plants have reached a height of from 10 to 12 inches they will probably be ready for a shift into larger pots, 6-inch will be found a suitable size. Have them quite clean, or the roots will adhere to their sides when turned out at the next shift. A small number of dissolved bones may with advantage be added to the soil, which otherwise should be the same as before. Always use it in as rough a state as is compatible with the size of pot. Keep the plants rather close for a few days until established, after which admit abundance of air. As soon as they have attained the desired height—i.e., from 18 inches to 2 feet, allow the top shoots to branch out, and when these require support place them on the trellises.

In giving the final shift a difference in the compost will be necessary. Two parts of loam, one of leaf soil, one of old Mushroom bed refuse, and an eighth of charcoal, with sufficient sand to keep the whole porous, will be suitable. I have heard it said that if much sand is used it will add to the fragrance of the flowers, but for the accuracy of this I cannot vouch. In placing on the trellises make them as firm as possible, pushing the stakes well through the soil. Mine are made of galvanised wire, and range from 15 to 20 inches in diameter, 8 to 12 inches in depth, with stems from 2 to 3 feet in length.

Pots 10 inches in diameter will be large enough; they should be well drained, as Mignonette is very impatient of too much moisture at the roots during the winter. Cover the pots with new leaves, or, better still, fragments of fibrous loam, with the fine soil shaken out; pot rather firmly, leaving an inch of space to allow for top-dressing. These are small matters, but essential for attaining success. As the growths extend stop and tie them down, regulating them so as to cover the trellises as evenly as possible. As the days shorten the plants must have a light airy position near the glass. When they have overspread the trellises cease stopping, and allow them to flower. It will be found necessary to tie the shoots down once more to keep the plants compact and shapely. They will now derive benefit from a top-dressing of soil similar to that used in potting.

Mignonette delights in a humid atmosphere during its early stages of growth, but as the weather becomes less dry the plants require less

moisture, both at the roots and in the atmosphere, until the flowering period, when they will again require abundance of water. When flowering they are gross feeders, and are much benefited by occasional applications of liquid manure, or the surface of the soil sprinkled with Clay's fertiliser at intervals of eight or ten days. As seed pods appear they must be nipped off; this will prolong the flowering season. My plants last in bloom from the middle of February to the first week in June. They should be shaded from hot sun.—N.

EXHIBITING MELONS.

"W. S." (page 223) has, in relation to the judging of Melons at exhibitions, striven to lead a forlorn hope. No man, acting as a judge, would be worth his salt who awarded prizes to Melons solely by appearance. The most beautiful externally may prove positively uneatable. If it is a fact, though I do not think it is, that in a Melon competition the smallest and most incorrectly finished fruit is found, on tasting, to be the richest flavoured, whilst the largest and noblest looking is probably the worst, does it not show that our methods of Melon culture are absolutely wrong, and that we are generally labouring to produce big, if handsome, compounds of water utterly devoid of soul, that is—flavour?

Which finds more favour as a flower, a deliciously perfumed Devonian Rose, or a huge scentless Hardy Perpetual? Is not the perfume in Roses, Carnations, and other flowers their great charm? Is it not flavour which puts Cox's Orange Pippin, never a big or showy fruit, so far beyond a large and handsome Peasegood's Nonesuch or Blenheim Pippin, or other grand looking Apples? Eliminate flavour from Melons and they are only small Pumpkins, practically worthless. I fear, judging by what I have to taste now and then, that many persons never get a high-flavoured Melon on their tables. If that be so they merit some pity. It is better to have a small fruit, the flesh of which is so delicious that it tempts to taste again and again, than a grand looking specimen the flesh of which when tasted is so flavourless, perhaps even offensive, that it is rejected with possible execration.

Rather than write to excuse the grave deficiencies of flavour found in such erratic fruits as Melons, would it not be better to seek for information as to how to produce in them the best flavour, even though the fruits may be smaller? Only at the last meeting of the Fruit Committee one of the ablest of Melon growers put before the members three fruits, different varieties, and, as is said to be so commonly the case, the smallest, probably a 4 lb. fruit, gave by far the best flavour: indeed, it was delicious. I advise judges not to deviate from their rightful duty of tasting Melons in competition by any special pleading against the practice.

Once get rid of flavour as the chief quality in Melons, then we should see the biggest fruits only favoured at shows. Fancy the R.H.S. Fruit Committee making awards to Melons without tasting them. The suggestion is so absurd as to be comical. Too often the standard of flavour is not set high enough. It should now be very exacting. The proposal to have white, green, and scarlet-flesh Melons in a class is too absurd. Not on one occasion in ten can anyone tell whether a Melon flesh is absolutely of the colour stated until it is cut. Have pairs of Melons if you like, but stipulations as to colour are valueless.

I am perfectly aware that in collections of fruits Melons are judged by appearance. It is not wise practice any the more. If an exhibitor stages fair Muscat of Alexandria Grapes in such a collection, the well known flavour of that variety practically outweighs superb Gros Moroc or Gros Colman Grapes in a competing collection, because the latter are inferior in flavour. The same principle should apply to Melons, and therefore such Melons ought to be tasted.—A. D.

There is a great deal in what "W. S." has said against the almost universal practice of cutting, and of course spoiling, Melons that are sent to shows. But speaking from a fairly lengthened experience I think that exhibitors as a whole are better satisfied when their fruits are tasted; the only people to be pitied are the Judges. I do not know a worse task than wading through a dozen or two of Melons, tasting them all, and then having to taste again to find the right one.

Despite what has been said to the contrary, it is usually a difficult matter to judge of flavour by appearance, and a case in point was a fruit I exhibited and won with at a show in the neighbourhood. Try what I would the fruit would not colour properly, so the time-honoured pail of boiling water was placed on the roots for two nights in succession, killing the plant but having the desired effect of colouring the fruit. Now, no one would have expected this fruit to be of good flavour, but it was excellent and ripe to the rind, disappearing at a single meal in the dining room. I was congratulating myself that the fruit was not cut at the show, but I need have had no fear as to the result.

"W. S.," perhaps, lays a little too much stress upon size. I like a small, heavy Melon, and though disliking scrubby fruit as much as anyone, cannot agree that the largest fruits show the highest culture. Large Melons, if well netted and highly finished, are, of course, they that should win in competition, but too often they lack finish and weight.

As to the suggestion of several classes being required, I fail to see the advantage of even keeping the green and the scarlet fleshed varieties apart. Why cannot they be judged on their merits as Grapes are, and, of course, if more classes are needed, give prizes for each? No judge would have a difficulty in deciding between good Muscats and Black Alicantes for flavour any more than he would between Madresfield Court or Mrs. Pince and Golden Queen. What is really needed is a weeding out of many worthless varieties of Melons that only swell seedmen's lists, and are, individually, worthless.—H. RICHARDS.



RECENT WEATHER IN LONDON.—On Saturday last there were several heavy showers with local thunder. Sunday proved to be a fine and pleasant day, though cool in the evening. Monday again was showery, but Tuesday was dry and fresh until night, when rain fell heavily. At the time of going to press on Wednesday it was bright and cold.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, September 26th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. At three o'clock a lecture on "Instructional Fruit Stations" will be given by Mr. E. Luckhurst, F.R.H.S.

CRYSTAL PALACE FRUIT SHOW.—The Royal Horticultural Society will next Thursday, Friday, and Saturday, September 28th, 29th, and 30th, hold its great annual Show of British grown fruit in the Crystal Palace, and everyone is hoping for a brilliant display that will worthily uphold past traditions. The 170 classes embodied in the schedule comprise all phases of fruit culture, and afford opportunities for every grower to contribute. It should be particularly noted by all readers that *the Committees of the Society will not sit at this Show*. All fruits for certificate must be exhibited at one of the fortnightly meetings at the Drill Hall, James Street, Victoria Street, Westminster. The notice on page 3 of the schedule will be strictly carried out. It runs thus: "All fruit should bear its natural 'bloom'; any polishing process disqualifies." Fellows of the Society will be admitted to the Crystal Palace on presenting their tickets.

NYPHÆA STELLATA IN IRELAND.—One is not surprised to hear from Mr. Black that *Nymphæa stellata*, which has lately bloomed at Carton in the open air, with nothing but the solar heat to bring it into flower, has been much-liked by everyone who has seen it. So far as I am aware, this Water Lily has not before been bloomed in the United Kingdom without the use of hot-water piping, either under glass or out of doors. With the charming form known as the "Berlin variety" it has been much admired by those who have seen it in glass structures. That it has bloomed without artificial heat in the Duke of Leinster's garden near Maynooth ought to give encouragement to those in warm localities to attempt its cultivation, even if it should have to be kept under glass in winter. Associated with the new hybrids of M. Latour-Marliac and other raisers, its blue flowers will be much appreciated. —S. ARNOTT.

PRESENTATION TO MR. M. WEBSTER AT BECKENHAM.—On Friday last the Committee and some of those who have been accustomed to use the library and reading room of the Beckenham Horticultural Society met to present one of the members with a token of their goodwill for his approaching marriage. Since the re-formation of the Society in 1892 one of its most active members has been Mr. Mark Webster. As an exhibitor from the gardens of E. J. Preston, Esq., at Kelsey Park, his success has been frequently recorded, and as a member of the Committee his assistance has been invaluable; but it is in the capacity of Hon. Librarian his connection has been of such worth that he was the recipient of the testimonial. The present took the form of two easy chairs of dark mahogany, and a bronze medal of the Society with a suitable inscription is placed in the back of one of them and made to turn on pivots, so that both reverse and obverse may be inspected.

PEDIGREE IRISH BULLS.—The "Irish Gardener" says: "It is sad to think that Mr. F. W. Moore's deft hand should be 'coatless and hatless' while engaged in the work of putting the last dainty touches to the grand group of plants from Glasnevin Botanic Gardens, as described by the Dublin correspondent of the *Journal of Horticulture* in his report of the recent flower show in Merrion Square; but as the gentleman referred to is reported as looking 'hot and happy,' possibly his hand did not need the protection of either coat or hat. This is certainly the choicest bit of metaphor we have read for some time, and we congratulate the writer on his success in 'putting down his foot with a heavy hand.'"

Such a highly bred bull was well worth preserving,
And he who has found it, is surely deserving
Of thanks, here conveyed, for faith, on my word,
This bull is as good as Sir Boyle Roche's bird. —PADDY.

GARDENING APPOINTMENT.—Mr. J. Foster, for the past seven years gardener to Captain Gassiot, Hampton Lodge, Seale, Surrey, has been appointed head gardener to F. Lassetter, Esq., Heverswood, Brasted, Kent.

DEATH OF DR. S. P. BUDD.—It is with regret that we learn the death, on the 11th inst., of this well-known Bath physician. Horticulturally the deceased was known as one of the foremost amateur Rose growers in the country.

CUTTING BACK PARSLEY.—There are times when it is not wise to depend upon any one sowing or planting of Parsley, and though the winter plants may be looking well, it is a good plan to run the garden shears over a few strong plants or a row now. The result will be a hardy strong growth, which is sure to be useful in early winter, the real winter crop being saved for protecting later, and providing spring gatherings. No crop is more acceptable to cooks than a sufficiency of Parsley all the year round, and it always pays a gardener to avoid friction in this department if possible. —H. C. IL.

BEET CHELTENHAM GREEN TOP.—This is one of the nicest flavoured and best coloured Beets in cultivation, and is worthy a place in all gardens. Too many varieties are, as far as flavour is concerned, little better than Mangold, but this is excellent if properly cooked. Again, many good sorts are spoiled by being sown early in rich soil, when they grow to immense sizes and quite out of their true character. I saw some very good breadths of this Beet with Mr. J. C. Tallack at Shipley Hall recently, and it is I believe a great favourite of his. Certainly it would be difficult to find a better one. —R. R.

THE FIRST SNOW.—The soft white messengers of winter are upon us before we have had time to recover from the sultry breath of a prolonged summer. A shower of snow fell on Monday afternoon on the Yorkshire Wolds, at Driffield. In the evening the weather was bright, clear, and very cold. The Grampians are not likely to be behind Yorkshire in welcoming the Snow King. (On Monday, for the first time, their higher peaks were fringed with white. At Montrose a great gale blew down the circus tent of Barnum & Bailey's show, and played some other fantastic freaks. The north-east of Scotland is now, says a daily contemporary, given over to a keen and nipping air.

PURPLE NUTS.—The Purple Filbert is a useful plant for shrubberies where the pretty coppery tint is effective in summer and early autumn. The plant is cheap and fairly easily propagated either by sucker-like shoots that spring from the base of the old stools, or from seeds. But the latter method, though usually resulting in a fair percentage of well coloured plants, is not wholly to be depended upon, as sometimes the seedlings have green or poorly coloured foliage. The nuts are extremely pretty with their deep scarlet husk and purplish shell, the flesh of the kernel being white with a rosy pink skin, and of excellent flavour. It is certainly worth planting for its fruit alone, and will thrive on any soil. —B. S. E.

THE LOGAN BERRY.—A writer in the "New York Tribune" praises the Logan berry highly. It is called a Blackberry, but is claimed to be a cross between the wild Blackberry and the Red Antwerp Raspberry, combining the desirable qualities of both. It originated in California some ten years ago. The flavour of the fruit is unique, and unlike that of any other variety. It is very hardy and prolific, and fruit bears transportation well. The canes are strong and of low growth, and are destitute of thorns, so that hands and clothing are not torn in picking the fruit. It is as excellent for preserving as for table use, all of which and much more the correspondent takes a column to tell. —("American Cultivator.")

FIG BROWN TURKEY.—There is no better general purpose variety than this, for it is equally good for early or late forcing, for growing in pots, or even in favoured localities outside. Like many other kinds of fruit this varies, some forms of it being very much superior to others, but a really well ripened Brown Turkey Fig is difficult indeed to beat. Day after day one comes across instances of Figs being planted in light, rich, and loose borders, in spite of what has been written over and over again as to the futility of such a course. Quite recently I was asked the reason why a house planted some four years ago was unsatisfactory. Apparently the trees in the first year looked out at the top ventilators, for there is simply a mass of long shoots, which stopping only seems to encourage. The true fact of the matter was that their root run was almost unlimited, and very rich, consequently Figs may be looked for in vain. Brown Turkey is no better than others in this respect perhaps, but it certainly fruits with greater regularity than almost any other. —H.

— **ABELIA UNIFLORA.**—This *Abelia* cannot strictly be termed hardy except in a few favoured localities in the south and west; in other parts of the country it requires the shelter of a wall, or to be grown indoors. It is worth growing in pots for the conservatory or house decoration, as, although a free growing plant, it can easily be kept in good condition in small pots with a little feeding. The flowers are terminal, and are borne in great numbers on the young growths. The calyx is reddish in colour, and usually consists of three or four irregularly shaped foliaceous bracts, which are surmounted by pinkish-white tubular flowers about half an inch long; the inside of the tube is clothed with dense white hairs. The leaves are opposite, ovate or oblong in shape, and of a dark, shining green, showing the flowers off to the best advantage. It flowers outside during August and September, and if provided with a position sheltered from north and east winds—which, as a rule, cause more damage to tender plants than frost does—will be found a welcome addition to the list of autumn-flowering plants. It is easily propagated by cuttings, which commence to flower the second year after being rooted. It is a native of China.—C.

— **GRAPE DIAMOND JUBILEE.**—I was pleased to see your notice of this new Grape on page 230. No black Grape has been introduced in my time, and I am not a young man now, that has impressed me more favourably than this one, and I shall be much mistaken if in a few years it is not the leading variety on the exhibition boards. It possesses one great merit, a splendid constitution. I had the privilege of seeing it at Messrs. D. & W. Buchanan's establishment a few weeks ago, and the style and habit of its growth, with its free setting qualities were just what a Grape grower likes to see. I have grown, I think, every new Grape that has come out during the last thirty years, and sometimes have been very successful with the most difficult of them. I can remember the great flourish of trumpets and the first class certificates which accompanied the appearance of some new Grapes, which now we seldom see. I never hear of either a man or a Vine that will last long without a good constitution. I am, therefore, pleased to welcome a new Grape that has such a noble appearance, and which appears to me from what I saw of it, to be as sound and as easily grown as a Hamburg.—A. KIRK, *Norwood Gardens, Alcoa.*

— **PEAR WILLIAMS' BON CHRÉTIEN.**—This fine Pear is often underrated by growers who have it trained to hot walls, where it comes much too quickly to maturity, and never attains to its proper flavour. I have had it in various positions, but in none has it ever been so good as this year from a new lead grafted on an old tree some three or four years ago. In a part of the garden where a screen was necessary I found an old Pear tree that was quite a useless variety, and to make it of some use I grafted the *Bon Chrétien* on it, and it has grown very vigorously, being now a large lead. The fruit is very large, and was gathered the second week in August, and is now perfect for the variety. Had it been left on the tree until ripe, or had the fruit been grown on a wall, there would be the hard core and gritty ill-flavoured flesh; but as it is the fruit is excellent, and those who do not fancy *Bon Chrétien* should try it in this way—in the open, and on an unrestricted tree. The fruit on walls should always be lightly shaded for about a fortnight during the hottest part of July, and this gradually removed; then if the fruit is gathered before really ripe, the flavour will come up in a cool fruit room.—S. E.

— **YORK FLORISTS.**—The Ancient Society of York Florists held its fifth Show of the season in the Guildhall, on the 18th inst., and it was a very successful one, there being a splendid display and a numerous attendance. Admission was, as usual, free. This was the Dahlia Show, and the chief interest centred upon the grand exhibition presented by Messrs. H. Cannell & Sons, Swanley, Kent, more especially their Cactus Dahlias. They had a bank 40 feet in length by 3 feet in width, and about eighty varieties, comprised in something like 120 bunches, were shown. Messrs. Cannell's collection was not for competition, and the gold medal and certificates of merit awarded by the Society were well-deserved recognitions of beauty and excellence. The display of hardy herbaceous perennials was imposing. Messrs. Harkness & Son, Bedale; Hutchinson, Kirbymoorside; and Cottam, Cottingham, were the leading exhibitors. Mr. Hutchinson's first prize Gladioli were fine. Marigolds formed a large and varied collection. The few cut Roses entered were choice. Asters also were very nice. The first and second prize-winning hand bouquets looked exceedingly pretty. Altogether, says a Yorkshire contemporary, the Show was of a superior character. Remembering the moisture-absorbing nature of growing Dahlias, it was a little surprising to find such a good display. The exhibitors totalled about forty, and a sum of £30 was divided in prizes.

— **DWARF FRENCH BEAN MAGNUM BONUM.**—I enclose a few pods of this excellent dwarf Bean, which is now cropping freely here. As our Coombe soil is shallow and light, we sow in trenches, and keep well watered. This variety is a strong grower, and must not, therefore, be planted closer than a foot in the rows, and a little extra labour is well repaid in a good crop of fine beans.—T. H. BOLTON, *Coombe End.* [The samples were splendid, and represented a good variety, in conjunction with sound cultural principles carefully carried out.]

— **RUDBECKIA GOLDEN SUNSET.**—The perennial *Rudbeckias* are well known as useful hardy flowers for cutting and garden display, but the annual *Coneflowers* are not so well known or appreciated. This one, for instance, is a very useful annual, bearing large chrome yellow and maroon blossoms that are extremely useful. The cone of the flower is covered with black anthers and yellow pollen at first, which against the bright rosy florets have a very pretty appearance. Sown in March and transplanted to a warm border in April or May the plants are soon in flower, and they keep up a continuous succession for a long time.—R.

— **CACTI AS GREENHOUSE PLANTS.**—There appears to be a growing, or rather an awakening, taste for these plants, and the fine groups put up by our principal trade growers, especially of *Phyllocacti*, show what fine plants they are for a display. Glowing and rich colours, beautiful pure white, and combinations of most other colours, are included, so no fault can be found with them on this score. Why, then, should they have gone out of fashion? It is not that they are difficult to grow, for few plants are easier, but I think the idea that many gardeners had, that they required starvation treatment, had a good deal to do with the matter. The consequence of this method was that the plants could not get sufficient nutriment to thrive, hardly to live, and so they gradually got into bad odour. The *Phyllocacti* are not grass-feeding plants by any means, nor do they require the assistance of strong manures, animal or chemical, but a sound loamy compost, with sufficient plant food to get along with is necessary. A compost that will grow good Zonal or Regal *Pelargoniums* will suit these plants well, but they do not require so much feeding at the finish.—H.

— **VITIS AGNUS CASTUS.**—The order *Verbenaceae* is not rich in hardy shrubs, but for all that it contains several which are well worth a place in the garden as showy flowering plants, with the additional recommendation of coming into bloom during late summer and early autumn, when flowering shrubs are scarce. Of this number the subject of this note is by no means the least desirable, and in places where it can be given a sunny position in a corner sheltered from cold winds, or, better still, a place on a wall, it fully justifies its inclusion in a selection of plants for such favoured spots. It is a native of South Europe, and makes a large spreading bush when allowed to grow naturally. The compound leaves are made up of from five to seven lanceolate leaflets, the largest of which are 4 inches long. The flowers are borne in loose terminal panicles often 18 inches long. They are white in colour with occasional tinges of lilac, and are arranged in dense whorls fairly close together on the stem. It grows well in light loam, and is improved by an annual pruning in spring. When grown on a wall it is a good plan to prune to spurs; by this means vigorous growths are made which produce immense heads of flowers.—KEWITE.

METEOROLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1899.										
September.										
Sunday ..10	W.N.W.	deg. 59.9	deg. 56.5	deg. 68.9	deg. 52.9	ins. 0 01	deg. 62.2	deg. 63.3	deg. 61.5	deg. 41.8
Monday ..11	N.	58.9	50.1	65.8	40.5	—	59.5	62.5	61.5	32.0
Tuesday 12	N.N.E.	59.2	56.5	68.2	53.9	—	60.5	61.8	61.2	44.5
Wednesday 13	E.S.E.	60.1	57.0	70.3	44.5	—	59.3	61.5	61.1	36.5
Thursday 14	E.N.E.	54.1	54.6	66.9	57.5	—	61.6	61.2	60.9	54.7
Friday ..15	N.N.W.	58.5	51.8	67.1	42.8	0.19	59.9	61.5	60.7	32.7
Saturday 16	W.N.W.	58.9	53.5	68.0	54.0	0.04	60.8	61.1	60.6	48.2
MEANS ..		58.5	54.3	67.8	49.4	Total 0.24	60.0	61.8	61.1	41.9

The weather has been dull and cloudy, with a few showers and strong wind from the north and east.

ANTHURIUM SCHERZERIANUM.

THERE is a widespread impression that to grow this splendid Aroid a very high temperature is necessary, but it is a great mistake. There is no doubt that some of the finest plants extant are growing in a much cooler temperature than is usually prescribed for them, and both this and the handsome *A. Andreanum* are reared in many collections of stove plants. Look, for instance, at the way the plants grow in some of our principal nurseries, planted out in quite cool corridors and similar places, where the temperature is not up to stove point by any means.

I know a large collection in the Midlands where plants of extremely rare and very valuable types are placed in a large conservatory-like structure, that is never kept at any great heat. I saw them recently, and there were immense spathes of most beautiful colours, great green leaves, and roots pushing through inches of rough turfy compost—plants yards across, that would delight even the most phlegmatic of gardeners.

But there is one thing I can never understand, and that is, why our raisers of new forms, especially of *A. Andreanum*, persist in giving us miserable washed-out tints of purple and rose. They are of immense size, but infinitely inferior to the poorest form of the typical *A. Andreanum* for beauty. All such ought to be destroyed when they flower, or at least kept only for the decoration of large winter gardens, corridors, or similar structures. Deep scarlets and crimsons look very well against the deep green foliage of healthy plants; and pure white forms are chaste, but we can do without the others.—H. R. RICHARDS.

DUBLIN PARKS.

APART from the private parks that help to enliven the darker squares of Dublin there has arisen a newer movement to beautify our city, as well as to divert us from the never ceasing worry of everyday life and to help to show (which for a truer name are termed the lower classes) another aspect of life than that which accrues from their squalid homes. The converting of crumbling domiciles into grassy plots and pebbled walks has been the logical outcome of the untiring devotion of the Earl of Meath, and although we have not a plethora of them, still an occasional one brightens our city.

Contiguous to St. Andrew's Church, a spot rich in facts for antiquarians and archaeologists, and equally rich, unfortunately, in the poverty of its inhabitants, has been recently transformed into a park. It leads from the main thoroughfare down to one of the ancient gates of Dublin. Grass-covered slopes and a fair sprinkling of shrubs planted therein, as well as small plots set apart as flower beds, all tend to make it as picturesque as is practical with the space and limited means at disposal. The space is enclosed with iron railings, round which Ivy is trailed.

Next in order will be Christchurch. The church itself is a noble edifice, renovated—in fact, rebuilt—by the munificence of Messrs. Roe and Sons. A large expanse of ground occupies the length of it, and it is traversed by several concrete and pebbled pathways. The smooth lawns and well-mown grass-covered slopes all point to an enclosed park, where stand the remaining ruins of some ancient monastery, the only vestiges that link us to the receding past. Some well-grown trees and shrubs are planted pretty thickly, whilst a neatly trimmed hedge sets the grounds off to advantage. An isolated pile of bricks, nearly covered with creepers, standing in a lawn to my eye looks well, and as one takes a lingering look Trinity College with its magnificent trees and shrubs can be faintly outlined.

Situated in the centre of the metropolis, yet beyond the busy hum of commercial activity, the undulating sward of Leinster Lawn looks on Merrion Square Park, where many doughty contests for horticultural honours have been determined in connection with the Irish R.H.S. Viewing it from the standpoint of acreage it is by no means extensive. But the atmosphere is heavily charged with memorable associations, though the wane of years has altered its character from being the scene of political passion to be a cool retreat for learning. It formerly belonged to the Dukes of Leinster of Carton fame. Now that it has become the seat of intellectual work it is flanked, or better, surrounded by superb buildings whose types of architecture are diverse. The blocks include our national museums, library, and art gallery, whilst the house darkened by the dust of time is the home of the Royal Dublin Society, whose labours in the agricultural and horticultural fields are so widely known.

At present its autumnal appearance is pleasing. Of the many diversified beds that brighten, or rather enliven the sombre limestone surroundings, the following deserve mentioning—a group of *Cannas* occupies a semi-circular bed and is interspersed with *Gladioli*, and having India-rubber plants in the centre, has a charm of its own. *Snapdragons* form a parterre, where thoughts of incoming winter are dispelled, as the plants form one mass of colour. Occasional blooms of *Picotees* stand prominently out and add materially to the beauty of the whole. A star-shaped bed finds a place, and is composed of single *Begonias*. The weather lately has done irreparable harm to the blooms. The other beds are variously composed of "*Geraniums*," single *Begonias*, *Iris*es, and *Pansies*, whilst *Echeverias* do excellent service.

Apart from the beds, groups of trees, which are in abundance, include specimens of Weeping Hawthorn, Mink Orange, and Silver-leaf Hollies, edged with Ground Ivy; also *Poplars*, *Elms*, and *Holly*, with *Nasturtiums*, *Dahlias*, and *Sunflowers*, used for border effect, increase the interest. The garden is under the fostering care of Mr. Kearney, who likewise superintends the park of Stephen's Green.—A. O'NEILL.

NOTES ON ACACIAS.

I AM not insensible to the charms of novelty, but neither am I blind to the interest connected with plants that are useful, though it may be they are chiefly seen among old-fashioned people, who can love the beautiful because it is beautiful. Towards many such, getting discarded from unique collections, I experience sensations akin to those which I feel when thinking of other days, and of friends still dear to me, though seldom seen. *Acacias* may be easily and quickly grown, and thus may soon be made to ornament a greenhouse, until others of slower growth can be reared to supply their place, when the possessor's taste becomes more fastidious. The plants will not suffer in winter in a temperature of from 35° to 45°, more especially if the wood has been hardened by a fair proportion of sunshine, and a diminished supply of water, the previous autumn.

With one or two exceptions the whole of the hardy kinds of *Acacia* are fitted for a cool greenhouse. Generally speaking the colour of the flowers is yellow, and these flowers are arranged into single globular heads, or again along the branches in the way of a raceme, or a cylindrical spike. The great proportion of those fitted for pot culture have tough, leather-like foliage—in fact, it is not foliage at all, though answering the same purpose, but an enlargement of the petiole of the leaf into what in many cases looks like a leaf—and hence is termed a phylloid. This is even deemed by botanists the true term for the pinnae in the beautiful pinnated species of the genus. In all the group true leaves are formed when raising them from seed, but as growth progresses they drop, and the phylloid takes their place.

A. armata, so called from each phylloid, or leaf, being armed with spines at its base, is one of the most beautiful and useful of the group, from the intense rich green of its foliage, and the golden orange colour of its flowers, produced from the base of almost every leaf, and flowering freely when a foot or 18 inches high, as it continues to do when a bush of some 10 feet in height, and 5 to 6 feet in diameter. It constitutes a good sale plant in London when about 18 inches in height. It flowers generally from January to June, and yields, thus, its showy blossoms at a period when flowers are most required. If the young wood is early ripened in summer, so as to set the flower buds, with or without a slight forcing, it will bloom during the whole of the winter months. In cold greenhouses, constructed upon the lean-to principle, where the covering of the back walls becomes a matter of importance, I can safely recommend this plant as one well fitted for such a situation, provided it is not too closely pruned, but enough young shoots procured to stand out a little from the tree; these, if well ripened in summer, will be masses of golden-orange in the following spring, relieved by the dark foliage as a background. In summer and winter, when not in bloom, few things could be more agreeable than the beautiful deep green of the plant.

Propagation is best done by seeds when obtainable, and before sowing in a hotbed in spring they should be steeped in water at 140° for twenty-four hours. Next, by cuttings of the half-ripened young shoots, at the beginning of summer, inserted in sand, under a bell-glass, and placed in a cold pit for several weeks, merely shaded from the sun and moist enough, then they may be removed to a little bottom heat until the roots have freely protruded, when they will require to be potted and kept close until rooting; shortly afterwards nip out the point of the shoot, to prevent elongation, and encourage growth of a stubby, bushy character. A suitable soil is sandy loam and fibrous peat. If likely to grow too strong and long give more loam—this will make them more robust and sturdy.

The first season from cuttings or seeds they will be best under glass. In the second summer they may stand until October, from the end of May, in a sheltered place out of doors, where they will have the morning and evening sun, be secure from worms getting into the pots, and be saved from deluging rains and very boisterous winds. Watering will generally be required in fair abundance, especially when growing and opening the first flower buds. We cannot imitate their natural climate, but towards autumn we should give no more water than will just keep them from flagging. At these two periods a little liquid manure may also be given. So long as the plants are young they will require repotting at least once a year. When established, and as large as you wish them to be, the repotting should merely consist in getting rid of some of the old roots and a portion of the old soil along with them, and replacing with fresh in a similar sized pot. After such operations give the plants a shady place for a time. The periods best for performing the operations are just when fresh growth is proceeding, after flowering and pruning, in the beginning of summer, or early in autumn, when the summer's growth is all but finished. In old plants, however, top-dressing annually, and a little liquid manure at the times stated, will keep the plants healthy for years.—GROWER.

LIQUID AIR FOR FRUIT SHIPPING.—Another use for liquid air is in the preservation of fruit in the course of transportation. The Fay Fruit Company of Los Angeles, Cal., has made arrangements with Mr. Chas. E. Tripler for the use of his process and appliances for the manufacture of liquid air. The object is to fit the refrigerator cars so that liquid air can be made to reduce the temperature and do away with the more costly and unsatisfactory process of icing. The Fay Company, says an American contemporary, ships over 2000 cars of fruit and vegetables annually, and they hope by the new process to save money, time, and labour, and to get their products in the market in better condition than they can by the present method.



SEASONABLE NOTES.

CHRYSANTHEMUMS are, as usual, monopolising a considerable amount of time and attention, and will for the next two months continue to claim daily some little matter of routine practised in the management of valuable collections. Where there is a large number of plants, embracing those that flower early as well as mid-season and late varieties, many of the former will be advanced in bud opening and showing colour. These ought at once to be housed, as to allow them to remain outside after this will be to induce damping of the blooms later on.

The housing, too, of the general collection must also be thought of, and due preparations made for placing the plants in suitable positions in light, airy structures, for flowering. Frequently double the number of plants are crowded into a given space than ought to be the case, and the result is the premature loss of a large proportion of the lower leaves. Crowding plants which are producing flowers for exhibition must impair the finish of the blooms, and those who are wise do not attempt to place the plants thickly together at first. Specimen plants which require good foliage as well as flowers may soon be ruined by crowding. Light on all sides is imperative for them.

Before taking plants indoors remove dead or yellow leaves and weeds from the surface soil in the pots. The base of the latter and the sides, if dirty, ought to be washed. As a precaution against the foliage being attacked by mildew it is an excellent plan to syringe the whole plant before housing with a solution of softsoap, sulphur, and a little petroleum, directing it against the under sides of the leaves. Bentley's mildew specific is also an effective remedy, and has the advantage of being ready for use and easy of application. Many varieties are subject to mildew, and these ought, if possible, to be discarded from collections as being really more troublesome than they are worth.

After the plants have been housed a week or so it is advisable to take the precaution of fumigating the collection with tobacco paper, using the customary care when this is being done, and having the plants dry. Tobacco paper may, however, be objectionable if the plants are housed in a structure near the dwelling. This objection can happily be met by adopting the equally, safe, clean, and effective method of vaporising with nicotine.

The earwig may continue to be troublesome should some of the insects find lodgment among the florets of opening blooms. They must be searched for and destroyed. The stakes employed for supporting Chrysanthemum stems are often at fault, especially bamboo canes, should these happen to be cut off at the ends between the nodes. The top of the stakes ought to be cut close to a node, which is always solid. When the stem is cut between the nodes it is hollow and offers a safe harbour for a little army of earwigs, and the cultivator wonders where they come from. The hollows should, therefore, be stuffed with putty; and split-canecan, that is canes with the upper part split, ought to be avoided.

The feeding of Chrysanthemums, begun when the pots were filled with roots and continued judiciously as the buds developed may be discontinued the first week of housing, but resumed afterwards until the flowers are well open. It is not wise to gorge the plants with manurial solutions of any kind with the mistaken idea that as Chrysanthemums are gross feeders, too much stimulant cannot be given. It is possible to give too much, and to apply it of a muddy character. Animal manures ought to be placed in a bag, so that the liquid is clear rather than like pudding. Thick material clogs on the surface. Artificial manures may be dusted thinly on the surface soil and watered in, rarely giving more than a tablespoonful to each 8 or 9-inch pot. Several applications may be made in this way throughout the season, while some may be dissolved in water and applied alternately with animal liquid manure. The great point is to use all stimulants weak. It is far better to do so, and to use often rather than to risk overdoing the feeding. Do not apply stimulants when the soil is dry. Moisture with clear water first.

Watering should be carried out in the morning. On very bright days the plants must be again looked over at noon, so that no plant is left dry too long. It is seldom all the plants require water at one time, hence the need for frequent examinations. Flowers well advanced in development may be shaded during the brightest sunshine, the dark varieties especially needing this attention.

Disbudding ought to be continued after housing as well as before. Terminal shoots produce one main bud with minor buds clustered

round, and the latter are removed. The remaining bud then develops into a good flower. This must be practised for exhibition blooms, and fine specimens are produced by disbudding when only wanted for decoration. Give air constantly, and a little fire heat in dull and wet weather, just to dry up stagnant moisture and cause buoyant movement of the atmosphere.—E. D. S.

ROCK AND WATER GARDENS.

WITHOUT seeking in any way to decry formal gardening, a phase of the art which, properly carried out, is indispensable in its own place, one cannot but see with pleasure the marked advances in what is termed "natural gardening." There is an increasing desire on the part of garden lovers to make their own places yield one or more features either unique or uncommon. Perhaps no style of gardening gives more room for the exercise of individual taste and skill than that which has as its speciality the use of rockwork with its natural adjunct of lakes or ponds. Of late years many admirable examples of work of this kind have been created. In the Journal of July 20th and August 24th, excellent illustrations of the gardens at The Uplands, near Birmingham, appeared. These, with that which accompanies this article (fig. 50), have led to the belief that a few practical notes on the subject will not be inappropriate, and may be of use to some.

The character of the work will depend much upon the space at command, with its natural contour; but, besides these, there is the important question of expense. One can have no hesitation in saying that those who can afford to do so will do well to seek the advice of those thoroughly versed in such work and capable of carrying it out. There has been a marked advance in the taste displayed by professional builders of rock gardens, and in the arrangements for the growth of the plants with which they are to be furnished. Such firms as Pulhams, who carried out the work at Uplands, can be trusted to do it efficiently and with a due regard to the general effect of the whole. Such an undertaking as the formation of rocky pools, streams, and cascades is often unsatisfactory when performed by those who have not had previous experience of the kind. Even where an ample supply of water is at command, leakages lead to the need for so much inflow that the temperature of the pond is kept too low for the free-blooming of some of the new Nymphæas now so indispensable in the water garden. So, too, with rockwork of a bold and effective character. It ought to be placed in the hands of experienced men who have made its construction their study.

Where circumstances prevent employing experienced men, or the use of large masses of stone, it is obvious that the most must be made of the material at command. This is not always pleasing, but the writer has seen a wonderfully good little rockery composed of furnace slag covered with cement. This was appropriately called the "Poor Man's Rockery."

In forming rock gardens of any kind a great consideration is a sufficient body of soil for the welfare of the plants. This is often overlooked, but it is essential that a root-run be afforded for the greater number of what we term alpine plants.

As space is limited one must pass to say a little about the construction of rocky pools, which do so much to give variety and beauty to a rock garden. Their formation requires great care. If the subsoil is not good leakage results, to the annoyance of the owner. Unless with a stiff, impervious subsoil, the site should be prepared by adding well puddled clay, rammed firmly so as to prevent subsidence. The pond or pool ought then to be formed of good, thoroughly mixed concrete, made in a proportion of not more than three parts of clean gravel to one of the best Portland cement. This must be thoroughly incorporated and made about 6 inches thick, and covered with a layer of cement composed of sand and cement. Some use a proportion of two of sand to one of cement, but it is safer to use equal parts.

When finished wash all over with pure cement and water applied thickly with a brush like whitewash. In forming the pools the form should be a little irregular, and the margins ought to be of stone or of concrete, so formed as to be natural looking. The margin of the pool shown in the illustration is an example of what is required. The depth need not be more than 3 feet in any part.

The subject of planting is too extensive to be dealt with in detail, and the plants to be used largely depend upon the extent of the rockwork and water. It is obvious that such a handsome plant as *Gunnera manicata*, so fine by a large lake, is out of place on the margin of a small pond, and it is equally apparent that some of the dwarf Conifers would be unsuitable for small rock gardens, although not to be absent from those of considerable dimensions. For rock gardens there is abundance of material. *Aubrietias* are charming, trailing over the brows of the rocks; *Helianthemums* are most

beautiful, and *Androsaces*, dwarf *Campanulas*, *Saxifrages*, *Sedums*, *Ramondias*, *Saponarias*, *Hypericums*, *Linarias*, *Aquilegias*, *Alyssums*, *Primulas*, and a host of others, which will be readily found in nurserymen's catalogues, are available. Shrubs such as the dwarf *Rhododendrons* and *Olearias* cannot be dispensed with.

For the water one cannot omit, even in the smallest place, one or more of the newer *Nymphaeas*. They display themselves to most advantage where there is room for development, but even a small pool, too little to be dignified by the name of "pond," ought to contain such a *Water Lily* as *Nymphaea Laydekeri rosea*, or the pretty little *N. pygmaea*, while such fine *Water Lilies* as the *Marliacea* types can be successfully flowered in a pond a few feet across.

The view at The Uplands gives, better than words can convey, a hint

SALVIAS.

THE very name brings back to many visions of brilliant beauty, for at one time these showy plants were largely grown in gardens where to-day they are conspicuous by their absence. How strange that it is so, for *Salvias* supply brightly coloured flowers on long stems at a season when they are most welcome—viz., during October. The many beautiful varieties of early flowering *Chrysanthemums* which have been raised during recent years have, without doubt, contributed largely to the neglect of *Salvias*, and with only a limited amount of space at command, gardeners are forced to make a rigid selection and grow such plants as give them the best return in the shape of suitable flowers, still I think there are many gardens



FIG. 50.—A CHARMING ASSOCIATION OF ROCK AND WATER.

as to how the margins should be planted. The Japanese *Irises* are at home either on the moist margin or in shallow water, and many other species, such as *I. aurea* or *I. sibirica*, grow equally well. *Spiraeas* delight in the moisture, and the *Funkia* in the photograph shows how readily it lends itself to such a position. *Primula rosea* and *P. japonica* are never seen so thriving as close to water, and there are *Reeds* and *Rushes* for those who care for such. Moisture-loving *Lilies*, of which *L. pardalinum*, the *Panther Lily*, may be named, grow and increase by these ponds, and a study of the plants at command would show that the question is not what will grow, but how many there is room for. One remark cannot be omitted, and that is to plant in bold groups where space can be spared.

These general observations have only touched the fringe of a great subject, with the view to giving suggestions and not particular instructions in detail.—S. ARNOTT.

where a good number of *Salvias* would prove of great service, even though fewer *Chrysanthemums* were grown to make room for them. I yield to none in my great admiration for *Chrysanthemums* of all descriptions, but I think their charms would be the more appreciated if other flowering plants were associated with them, for the *Chrysanthemum* season now extends over many months, and one does sometimes hear the remark, "Oh! nothing in flower but *Chrysanthemums*; a little variety would be refreshing!" Here, then, is a sound reason for taking up the culture of *Salvias*, especially as they supply flowers quite distinct in both form and colour from those of the autumn queen.

The 'old' variety, *splendens*, is still worth growing, as tall plants are effective for arranging in prominent positions, and the flowers can be cut with very long stems for arranging in vases. *Splendens Bruanti* is, however, for ordinary purposes to be preferred to the older

type, as the plant being of dwarf habit of growth makes a good specimen, and the flowers are of a wonderfully bright scarlet colour, a colour so much needed during the dull days of autumn. If only one variety can be grown, let it be *S. Bruanti*. Pitcheri produces beautiful bright blue flowers, a colour always acceptable and not very plentiful in other flowers during October. The plant branches freely and grows to a height of 3 or 4 feet, a grand companion for the scarlet flowering varieties. Betheli is quite distinct from all other *Salvias*. The flowers, which are of a rose colour, delicately shaded with white, grow in large panicles above bold striking foliage. It was, I believe, raised by Mr. Bethel when in charge of the extensive and beautiful gardens at Ashton Court, near Bristol, and when visiting there some twelve years ago during the autumn, I was greatly impressed with the beautiful groups of this and other varieties of *Salvias*, which were flowering grandly in the conservatory. *Chrysanthemums* there were in plenty, but the *Salvias* seemed to strike one as being an uncommon and brilliant display.

Rutilans is a neat growing variety, which produces freely long thin spikes of magenta coloured flowers. It blooms throughout the year, and the fragrant foliage resembles the scent of the Pine Apple. *Leucantha* bears woolly looking leaves, and the flowers are a peculiar mixture of rosy mauve and white. *Coccinea grandiflora* is a dwarf branching variety, bearing deep reddish salmon flowers. *Gesneriflora* is an old and well-known sort, which makes a brilliant display of scarlet during the spring months, and in well-grown plants the large deep green leaves show up the flowers to advantage. Those who have a large old-fashioned conservatory to keep gay should grow this extensively, as it succeeds well in a house in which the light is not intense. In modern structures the leaves sometimes turn brown, especially if the atmosphere is not kept moist.

Cuttings of all the above varieties should be inserted in March or April; they root freely enough in quite a cool house if kept in a close frame or hand-light. During the early stages of growth a soil mixture of two parts loam and one of leaf soil with sand added suits them admirably. For the final potting use four parts loam, one of horse manure, prepared as for a Mushroom bed, one of leaf soil, and a 48-potful of soot to each barrowload. Pot firmly and place in a shady position in the open air for a time, and syringe freely. When established arrange in a sunny position sheltered from cutting winds, as the plants frequently become stunted through being placed in an unfavourable position. Through the summer, when the weather is bright, syringe thoroughly during the afternoons or evenings to promote healthy growth and keep red spider at bay. Frequent applications of weak soot water are of immense benefit to the plants; they seem to revel in such stimulating food quite as much as *Chrysanthemums* do. An occasional top-dressing of chemical manure should also be given.

In some gardens *Salvias* are disappointing, and fail to grow satisfactorily, but the cause lies in their neglect. They do not get enough feeding and regular attention in watering, and I make bold to assert that if anyone will grow a good collection of *Salvias*, and bestow as much care on them as on a similar number of *Chrysanthemums*, the former will prove quite as attractive and useful as the latter.—H. D.

EXHIBITING GRAPES—A DISQUALIFICATION.

I HAVE been away from home, and have not therefore had an earlier opportunity to reply to Mr. Jones, who complains (page 208) about the judging at Malvern Show. I am surprised at the misstatements, and wish to endorse all Mr. Mullins, my co-judge, has written.

We did not give Mr. Jones first prize and then disqualify him, and our attention was not called to the error made by your correspondent by the officials present, but we noticed it ourselves, and after again reading the wording in the schedule we consulted the officials present, whose interpretation coincided with our own, that six distinct kinds were required. I therefore maintain that our decision was strictly correct. Judges are bound to follow the rules laid down by the society for whom they are officiating.

In this case we found two exhibitors only. We avoided writing the objectionable word, disqualified, on Mr. Jones' card, but instead wrote, "only five distinct kinds of fruit." If we wounded Mr. Jones' feelings we brought him the best physician we could to heal them, through the kindness of the officials present, and awarded a special prize, in value above the second prize and only ten shillings under the first prize, so that I think Mr. Jones has little of which to complain. Had Mr. Jones' table been deserving of first prize, and had we awarded it to him, the other exhibitor could have entered a protest on the grounds that our decision was not according to the wording of the schedule.

After all that has been written in our gardening periodicals during the last twenty-five years for the guidance of exhibitors, judges, and officials relative to the difference between kinds and varieties, I am surprised that anyone should fall into error or expect judges to deviate from the precise wording of the schedule. All similar trouble would be avoided if, like Shrewsbury, other societies would definitely state that "black and white grapes will be allowed as distinct."—JNO. LAMBERT, *Powis Castle*.

WORK AMONG PEACH TREES.

THE successful Peach grower requires to be a man of many parts, a man of resource and ingenuity, dealing out to each tree under his charge the special treatment needed. In the case of large healthy trees, which have been bearing for years, very little trouble is, as a rule, given if the culture throughout the year is good, for by keeping the foliage clean, top-dressing in winter, and feeding liberally during the growing season, active roots are secured near the surface of the soil, and the trees bear good crops annually with unfailing regularity—i.e., when grown under glass. Trees, however, like human individuals, seem to differ in their capacity to do good work and keep in robust health, and it is certainly a little puzzling sometimes to find Peach trees, treated in every respect the same as those adjoining, in a short time showing signs of ill-health and feebleness. The present is an excellent time to attempt to put matters right by giving the needed attention at the roots. Early Peach houses at this season are generally free from plants, and if the borders can be renovated before the leaves fall, young roots work quickly into the new soil, and the trees show signs of improvement earlier than when the renovation is performed at a later date.

A trench 2 feet in width should be taken out along the border at the farthest point from the tree stems. Remove the soil down to the drainage, rearrange this, and if a fair number of roots is found cut them off at the edge of the trench, and fill in with fresh soil. If only few roots are found, another section of the border should be removed, this time preserving the roots carefully, notching the strong ones, and spreading them out carefully in the fresh soil, taking care to bring a good portion of them as near to the surface as practicable. Over the remaining surface of the border the soil should be removed to a depth of from 3 to 9 inches, this being regulated by the number of roots found.

Cut away the ends of the strong roots, notch them when they are destitute of fibres, lay them in fresh soil, and also spread a thin layer all over the border. Make no attempt, however, to bring the surface of the border up to its former level, all that is necessary is to cover the roots with 2 inches of soil—thick top-dressings often do more harm than good. A good compost to use for the above purpose is one formed of five parts loam, one of fresh horse manure, a tenth of bone-meal, and an equal quantity of wood ashes. This partial renovation of Peach borders often insures greatly improved results, and is far safer than taking more radical measures. While the work is being done, and for a couple of weeks after, the trees should be shaded.

Now let us turn to the consideration of young trees which have produced very strong wood, and need a check to insure fruitfulness. In such instances take out a trench from 2 to 4 feet from the bole of the tree, cut off all roots to the inner edge of the trench, and fill in with good turfy loam, to which a tenth of lime rubble has been added. Treat the soil very firmly as each layer is filled in.

Many trees in the open air, as well as those under glass, need such attention some time during the autumn, and in nearly all instances it is better to do the work before, rather than after the leaves have fallen. In successful Peach growing abundance of fibrous roots play an important part, and I know of no better way to secure these than by following the sound though ancient doctrine which says, "keep pulling the roots about."—PRACTICE.

SHOWS.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

SEPTEMBER 13TH AND 14TH.

THOUGH the entries for the above show were in number slightly under those of last year, the results as seen in the Waverley Market when staging was completed and everything in shipshape order, proved the exhibition to be one of the finest ever held by the Society. Grapes, always a grand feature, were surpassingly fine. Hardy fruits, and more particularly Apples, were exhibited in enormous quantities. A fair estimate of the number of dishes staged would be at least 500, the early varieties in particular being characterised by good size and clean growth.

Of cut flowers there was perhaps the finest display ever seen in Edinburgh at this season, all the popular kinds being largely represented and generally good in quality, and certainly of purer and brighter colouration than usually seen in Scotland. The quantity of Dahlias alone shown was marvellous, while herbaceous plants, Gladioli, *Roses*, *Pentstemons*, and Sweet Peas, not to mention others, were in each case exhibited profusely. Vegetables have been surpassed, nevertheless they formed an excellent contribution, and pot plants were up to the usual standard for these.

To the enterprise of nurserymen the success of the Exhibition as a whole was largely, very largely, due, and to say that as a body they merited the highest praise for the generally high-class and up-to-date character of their several exhibits is the very weakest expression that can be employed regarding them.

FRUIT.

In specifying the chief exhibits we shall follow the schedule and begin with the fruit classes, of which the decorated table of dessert fruit heads

the list. This class was to comprise sixteen dishes of fruit, the decoration to be confined to cut flowers and foliage only. Mr. Barnes, Eaton Hall, Chester, was the sole exhibitor, and was awarded the first prize. The flowers were Lily of the Valley in small glasses, and three larger vases in which *Odontoglossum Alexandræ* and *Oncidium incurvum* were lightly arranged with *Croton* leaves and Ferns. Mrs. Hutt, Appleby Towers, Muscat of Alexandria, and Madrasfield Court were the Grapes staged, and among other dishes were extra fine Pitmaston Duchess Pears, Golden Eagle and Princess of Wales Peaches, Cox's Orange and Gascoigne's Seedling Apples.

The collection of ten dishes of fruit brought out a good competition, the first prize being secured by Mr. D. Murray, Culzean Castle, Maybole, with fair Alicante and Muscat of Alexandria Grapes, Bon Chrétien Pears, Lady Sudeley Apples, good Melons, Pineapple, fine Sea Eagle Peaches, Figs, Plums, and Nectarines. Mr. Smith, Oxenford Castle, Dalkeith, was second, and Mr. D. Kidd, Carberry Tower, Musselburgh, third. For a collection of twelve sorts of hardy fruits, Mr. Day, Galloway House, Garliestown, was first, and Mr. Williamson, Tarvit, second. For a like number of dishes of orchard house fruit Mr. Beisant, Castle Huntley, Longforgan, was awarded the first prize, Apples and Peaches in particular being fine, and Mr. R. Cairns, Balruddery, Dundee, second.

Great excitement prevailed during the early part of the day over the class for six bunches Grapes in at least three varieties. There was a large competition, but interest centred on two stands, the one from Mr. Lunt, Keir House, Stirling, the other from Messrs. D. & W. Buchanan, Forth Vineyard, Kippen, and both so remarkable that it was apparent that the struggle for supremacy was to be a close one. It was a fair stand up fight, both of the competitors pitting their best bunches against each other; and though the Judges, Mr. David Thomson and Mr. Boyd, Callender Park, Falkirk, decided the Keir Grapes to be the more worthy, and Mr. Lunt emerged the victor, seldom has there been a fight in which the combatants were so evenly matched. The prize lot was characterised by evenness alike in bunch and berry and by high finish, though Mr. Lunt conceded a less high finish to the three bunches of Muscat of Alexandria than the Shrewsbury ones. Mrs. Pince, of which two bunches were staged, was also exceedingly fine, the six being completed with an example of Alnwick Seedling. The Kippen examples of Muscat of Alexandria were inferior to the others. The most remarkable feature here were three clusters of Alicante, of which one weighed 6½ lbs., and another 7½ lbs., their one fault being too closely crushed berries. The largest of the Keir Muscats, it may be said, weighed quite 5 lbs.

For four bunches, distinct varieties, the same exhibitors occupied like positions as above in the prize list, the Grapes in both instances being a little less good, clearly indicating that in the former class it was a case of Greek meeting Greek. Mr. Beisant, Castle Huntly, Longforgan, in both classes secured the third ticket. In the classes for two bunches and for one bunch Muscat of Alexandria Mr. Lunt in spite of extra fine examples pitted against his, was again successful. In the former class Mr. Kidd, Carberry Tower, Musselburgh, was second with exceptionally fine bunches, large in berry and of high finish; and in the latter Mr. Green, Grizzle, Yorks. For two bunches Black Hamburgh Mr. McKenacher, Denny, was first; and Messrs. Buchanan secured the leading awards for Alicante and Alnwick Seedling. Mr. Beisant had the finest Gros Colman, and Mr. Anderson, Peebles, the finest Lady Downe's. The Grapes as a whole were remarkable for high quality.

The best Queen Pine Apple was exhibited by Mr. Morrison, Archerfield, Drem; Mr. Owens, Foulden, Berwick, securing first for both green and scarlet-fleshed Melons. The best Figs came from Mr. J. Bilton, Fernie Castle, Collesic; while splendid examples of Sea Eagle Peaches from Mr. D. S. Melville, Lochgilphead, secured the first prize in a large class. Mr. Lunt had the finest Nectarines.

As already indicated Apples formed quite a feature of the Show. In the open class for twelve dishes, Mr. Barnes, Eaton Hall, was first with large and finely finished fruits; Mr. Whistling, Creden Hill, Hereford, second. In the corresponding class confined to Scotland, Mr. Carnegie, Prestwick, Ayr, was first, Mr. Day second, and Mr. Murray third. Prizes were offered for single dishes of between forty and fifty of the more popular varieties of Apples, and among these were many examples of high class culture, exhibitors from all parts of the United Kingdom forwarding fruit.

Pears were less in evidence than Apples, Mr. A. Ireland, Hildenborough Kent, being the only exhibitor for a collection of twelve sorts, but for a collection of six varieties grown in Scotland there was a good competition, Mr. Paterson, Salton Hall, Haddington, securing first prize. Some good fruits were shown in single dish classes, notable among which were Easter Beurré and Glou Morceau from Eaton Hall, and Pitmaston Duchess and Souvenir du Congrès. Plums have generally been a poor crop in Scotland, but at the Show there was a good representation of fine fruit, Mr. Williamson, Tarvit, and Mr. Day being first for respectively collections of dessert and culinary sorts.

PLANTS AND FLOWERS.

These were good for the time of year, Mr. Wood, Oswald Road, Edinburgh, having the best table of plants; and Mr. James McCartney, Liberton, the best four stove and greenhouse plants in flower. Mr. Lunt for six foliage plants secured first place, staging a finely coloured *Croton*, *Dracæna Donceati*, *Anthurium crystallinum*, *Campylobotrys reticulens*, *Dracæna Youngi*, and *Heliconia illustris rubricaulis*. Mr. McIntyre, The Glen, Innerleithen, was second. Mr. Lunt also occupied a like position for Palms, for four *Adiantums*, and for two *Crotons*. In the three Orchid classes Mr. Sharp, Freeland, Perth, took all the firsts—viz., for four and one Orchid, and for three *Cypripediums*. Among other plants shown

Zonal *Pelargoniums*, *Fuchsias*, *Begonias*, and *Eucharis* were particularly well done. In the classes devoted to nurserymen, Mr. John Downie, Princes Street, was the sole exhibitor, except for Conifers, for which Messrs. J. Dickson & Sons, Edinburgh, were first.

As already indicated, cut flowers stood out prominently in the exhibition as being extra fine; and in this section the classes set apart for nurserymen were naturally the more conspicuous. The chief prizes were offered for a table of bunches of cut flowers, in the judging of which consideration was to be given to the arrangement. Messrs. Harkness & Sons, Bedale, Yorks; Messrs. Cocker & Sons, Aberdeen; and Messrs. Kerr Brothers, Dumfries, comprised the competitors, who in each case set up grand and effective groups arranged on a sharp slope, the lower front of which rested on the edges of the table, and the highest points at the back, reaching to the gallery above. Limitations as to species, varieties, and numbers were clearly defined, and the Judges placed the prizewinners in the order named above. In Messrs. Harkness & Sons' group the flowers, if anything, were clearer and purer in colouring than in the others, and the staging was more effective.

Phloxes, Gladioli, Montbretias, Asters, Lilliums, *Helianthus*, and other popular flowers were, in all cases, well shown. For thirty spikes of Gladioli Mr. G. Mair, Prestwick, secured first prize with large even spikes; Mr. Campbell, Gonrock, second; and Messrs. Harkness third. Mr. Forbes, Hawick, and Mr. Campbell, High Blantyre, staged well in the class for eleven spikes Hollyhock, the former first, the latter second. For single Dahlias, Mr. John Downie was first; for eighteen Cactus, Mr. Smellie, Busby; Mr. Campbell being first for twelve Fancies. Messrs. D. & W. Croll, Dundee, and Mr. Smith, Stranraer, were the chief exhibitors for Roses, which, in both the H.P. and Tea sections were well shown. For twelve Carnations Mr. Campbell, High Blantyre, was first, and for twelve Picotees Mr. Forbes, Hawick, in each case with large and fine examples.

In the classes open to gardeners, the twelve bunches of hardy herbaceous flowers brought out a large competition, Mr. Bryden, Innerleithen, securing first prize with a grand collection well set up; Mr. J. Richardson, in the class for six bunches, securing first place with a very nice selection. The best twelve spikes Gladioli, also the best six, were staged by Mr. Carnegie, Prestwick, in both instances with fine examples. Roses were extra fine, and the competition keen, Mr. W. Melville gaining first place for twelve with large, fresh, and well coloured blooms. Mr. Hood, Helensburgh, in the corresponding class for twelve Teas, secured a like award. Grace Darling, in this stand, caused much heart burning, but a protest lodged to have it disqualified was, we believe, disallowed. It might be well, however, that the Council should guard against further trouble in the matter of hybrid varieties.

Sweet Peas made a large and wonderful show, the first prize eventually being secured by Mr. Angus, Norwood Hall, Aberdeen, for twelve bunches of the newer and best varieties most tastefully arranged without foliage of any kind. Mr. Oliver, Easington Park, Northumberland, was a close second. Dahlias in the several sections were largely and well shown, Mr. Veitch, Carlisle, being most successful. In this section some nice bouquets were also shown. The hand bouquets from Mr. W. Parlans and Mr. Mathieson, Corstorphine, and the shower bouquet from the first named being in particular most tastefully arranged. Good prizes were offered for dinner table decorations open to ladies only, but only two competitors entered, and in neither case was the result striking.

VEGETABLES.

Vegetables, though largely represented, were slightly below the average. The best collection of twelve varieties was staged by Mr. J. Dymock, Stoke Bruern Park, Towcester, in which Leeks and Celery were somewhat below the mark, but Onions, Parsnips, Beet, and Tomatoes were fine. A section was set apart for amateurs, in which prizes were offered for plants, fruit, and vegetables, and in each instance the results were satisfactory.

NON-COMPETITIVE EXHIBITS.

It remains now to notice the wonderful display contributed by trade growers from all parts of England and Scotland, and without which the Exhibition as a whole would have been wanting of one of its chief glories. The growing sheets of sprawling characters warn one that brevity must rule. But how can one pass over the grand *Celosias* and the fruiting *St. Joseph Strawberries* from Messrs. Clibran & Sons, Altrincham, Eekford's Sweet Peas, Forbes' *Pentstemons* and Phloxes, the distinct strain of the former shown by Mr. Irvine, Jedburgh; the group of *Ochids* from Low & Co., Bush Hill Park; and the neat group of decorative plants from Jones of Lewisham!

Then there were herbaceous cut flowers with Carnations and Dahlias thrown in from Mr. Cuthbertson and Mr. Lister, both of Rothsay; a wonderful table of high-class Dahlias from the Home of Flowers, over which the genial Cannell presides; and along with these *Cannas* in bloom, the like of which had not previously been seen so far north. Perfumed Lilies of the longiflorum section and speciosum from Wallace & Co., Colchester; a wonderful group of *Ivies* from J. Russell, Richmond, Surrey; a table of various garden products from Messrs. Dicksons & Co., Liberton; another table delightfully arranged with autumn Lilies and foliage plants from Messrs. Methven & Sons, Warriston, Edinburgh; wonderfully effective groups of foliage and flowering plants from Mr. Downie, and from Messrs. R. B. Laird & Sons, Pinkhill, Edinburgh, the latter firm contributing also a group of Conifers and of cut flowers, were all of great beauty.

Messrs. T. S. Ware & Co. sent from Tottenham a very large collection of cut blooms of single and double *Begonias*, and from Messrs. Dobbie & Co., Rothsay came a collection of Dahlias of all sections, the securing of

which must have exercised Mr. Jones not a little wandering over the Dahlia field to get together. The arrangement was surpassingly fine, and immensely pleased the public, the neat star-shaped single varieties being greatly admired.

FLORAL AND FRUIT COMMITTEES.

In connection with the Royal Caledonian Society's autumn exhibition the first meeting of the newly instituted Floral and Fruit Committees were held on the 13th in a little dark office near the exhibition. The undernoted plants were recommended for certificates. A broad-leaved green *Dracæna* with white markings, a seedling raised by Mr. Angus, Norwood Hall, Aberdeen. The plant is very strong-growing, robust, and effective, and was named *The Sirdar*. From Messrs. Cunninghame and Fraser, Comely Bank, Edinburgh, a bright golden-marked sport from *Ilex maderiænsis*, to which the varietal name of *Fraseri* has been affixed. A new yellow Pompon *Chrysanthemum* named *Craig Millar* from Messrs. Dickson & Co., Liberton, and a yellow self *Carnation* named *Mrs. Whitehead*, from Mr. Whitehead, Selkirk.

The Fruit Committee recommended cultural certificates to Mr. Cairns, Balruddery, Dundee, for a dish of Apple Emperor Alexander, and for a dish of Pear Pitman Duchesse.

DERBY.—SEPTEMBER 13TH.

THIS is held in connection with the Agricultural Show, and few, if any, of the many sections into which the Show is divided attracted more general interest than did the horticultural department, which really seems to grow more attractive every year. The Committee found it advisable this year to transfer the whole of this section from its old site near the Free Baths to a new one in the field adjoining the Meadow Road. One great advantage resulting from the change was that the crush in the tents was considerably lessened, and having more room at disposal the Committee was able to make more convenient arrangements than have existed in former years. Not only was the locality of the Exhibition different, but a change had also taken place in the management, Mr. W. Bacon, who has for the past thirty-five years filled the position of Secretary, having resigned, and turned over his duties to Mr. C. F. Steele. The latter was assisted this year by a capable Committee. The Show was held, as in former years, in three large marquees, and the plants, flowers, and fruit of which it consisted were, both in point of numbers and in quality, vastly superior to any yet staged at Derby. That the duties devolving upon those gentlemen who undertook to make the awards were no sinecure may be gathered from the fact that the classes numbered over 180, and that in many of them entries were very numerous indeed. The judging was, however, performed to the satisfaction of everybody.

The principal feature consisted, of course, of the collections of exotic plants, each covering an area of 200 square feet, which were staged in a huge circular marquee. The groups were arranged round a centre-piece of Palms, each forming a segment of a circle, and the competition for the first prize, which was the substantial one of £20, was very keen indeed. Eventually, the adjudicators decided in favour of the collection shown by Mr. J. Ward, gardener to T. H. Oakes, Esq., whose display was beautiful. It consisted of tall and graceful Palms, surrounded by an almost endless variety of *Crotons*, the crimson glory of some contrasting strangely with the sober colouring of others, and lending to the collection an air of brightness, without which it would have been dull. To this end also were introduced with charming effect *Lilliums*, *Abutilons*, *Orchids*, *Grasses*, *Dracænas*, and *Coleus*. The collection to which was awarded the second prize was that of Mr. Sharp, of Huddersfield, and in its formation were employed many plants precisely similar to those in the winning group. The arrangement was artistic in the highest sense of the word, and there was little to choose between the two. Messrs. Artindale & Son of Sheffield, Mr. G. Woodgate of Rolleston, and Mr. W. Finch of Coventry, were placed third, fourth, and fifth respectively.

A gold medal was awarded to Messrs. James Veitch & Sons of the Royal Exotic Nurseries, Chelsea, for a magnificent collection staged for decorative purposes only, and not for competition. Noticeable amongst the components of this last named group was an immense bunch of remarkably fine *Lilies of the Valley*, the fragrance of which permeated the atmosphere of the whole tent. Rare varieties of *Rhododendrons* and *Orchids* were also shown, together with *Crotons*, *Palms*, and other plants, the varied hues of whose foliage were blended with the utmost taste. Something of a novelty was staged hard by in the shape of an Ivy show by Messrs. Wm. Cutbush & Sons of the Highgate Nurseries, for which a silver medal was awarded. This collection included no fewer than forty-five varieties of Ivy, some of the variegated forms being exceedingly beautiful. In the same marquee were displayed the collections of *Begonias*, the winning group of which was shown by Mr. J. H. Goodacre. Mr. G. B. Mather of Tudor Lodge, Radbourne Street, Derby, occupied a large stand, which had been most tastefully arranged for decorative purposes. On it was displayed, amongst other devices, a splendid wreath and anchor, whilst in the same tent Mr. T. Rowley of Green Lane, Derby, showed three immense floral structures, taking the shape of a cross, wreath, and anchor respectively, for which he was awarded a silver medal.

No prettier section of the whole Show was to be found than that devoted to table decoration, there being little or nothing to choose between the displays. Eventually Mr. Goodacre scored again with a floral arrangement into which rare stove exotics did not enter at all, but which was composed almost exclusively of the simple Sweet Pea, set off by trailing creepers and feathery Ferns. Fruit also entered largely into this display, amongst the varieties shown being black and white Grapes, Apples, Peaches, Melons, Pine Apple, Figs and Nectarines. Messrs. W.

Edwards & Son of Nottingham also showed a pretty table, not for competition, into the arrangement of which the rustic vases and flower-holders, invented by Mr. Edwards, largely entered. In the vegetable classes there was nothing remarkable shown with the exception of a collection of fine Onions, staged by Mr. Wilkins of Inwood House, Blandford, Dorset, for which he was awarded a special gold medal.

The principal division is open only to nurserymen, gentlemen's gardeners, and market gardeners, and some splendid produce was staged. Collection of six Ferns.—First, Mr. J. Ward. Roses, twelve blooms, distinct.—First, Mr. C. Carrington. Second, Mr. P. Newbold. Third, Mr. A. Stirland. Roses, six distinct.—First, Mr. P. Newbold. Second, Mr. C. Carrington. Third, Mr. W. Holden. Dahlias, double, twelve distinct.—First, Mr. C. Carrington. Second, Mr. A. Stirland. Third, Mr. J. Wood. Dahlias, double, six distinct.—First, Mr. J. Wood. Second, Mr. C. Carrington. Third, Mr. A. Stirland. Dahlias, Cactus, twelve distinct.—First, Mr. C. Carrington. Second, Mr. A. Stirland. Third, Mr. J. Wood. Gladioli, twelve spikes, not less than eight varieties.—First, Mr. C. Carrington. Second, Messrs. Artindale & Son. Third, Mr. R. Straw. Asters, twelve blooms, not less than eight varieties.—First, Mr. A. Stirland. Second, Mr. C. Carrington. Third, Mr. J. King. Marigolds, African.—First, Mr. A. Stirland. Marigolds, French.—First, Mr. J. Wood. Second, Mr. J. King. Third, Mr. C. Carrington. Hand bouquet.—First, Mr. J. Norman. Second, Mr. J. Wood. Third, Mr. C. Carrington. Vase or epergne of cut flowers.—First, Mr. J. Norman. Second, Mr. W. Holder. Third, Mr. J. Stevenson.

Decorative dessert table of ripe fruit and flowers.—First, Mr. J. Goodacre. Second, Mr. A. Wagg. Third, Mr. J. Ward. Grapes, three bunches black.—First, Mr. A. McCulloch. Second, Mr. E. A. Young. Third, Mr. J. H. Goodacre. Grapes, three bunches white.—First, Mr. J. H. Goodacre. Second, Mr. G. Wadeson. Third, Mr. A. McCulloch. One Melon.—First, Mr. A. Wagg. Second, Mr. J. Ward. Third, Mr. J. H. Goodacre. Six Peaches.—First, Mr. J. H. Goodacre. Second, Mr. G. Wadeson. Third, Mr. G. Woodgate. Six Nectarines.—First, Mr. G. Wadeson. Second, Mr. G. Lilley. Third, Mr. J. Ward. Six dessert Apples.—First, Mr. J. H. Goodacre. Second, Mr. J. Evan. Third, Mr. J. King. Six kitchen Apples.—First, Mr. A. Ward. Second, Mr. J. Read. Third, Mr. R. Straw. Six Pears, dessert.—First, Mr. J. H. Goodacre. Second, Mr. A. Elphinstone. Third, Mr. J. Ward.

Twelve Tomatoes.—First, Mr. J. Ward. Second, Mr. W. Holder. Third, Mr. J. King. Potatoes, white kidney.—First, Mr. J. Evans. Second, Mr. J. Stevenson. Third, Mr. E. A. Young. Kidney Potatoes, coloured.—First, Mr. J. Woodward. Second, Mr. J. Evans. Third, Mr. E. A. Young. Round Potatoes, white, dish of six.—First, Mr. J. Evans. Second, Mr. R. Straw. Third, Mr. J. Read. Round Potatoes, coloured.—First, Mr. J. Read. Second, Mr. P. Newbold. Third, Mr. R. Straw. Peas, thirty pods.—First, Mr. W. Holder. Second, Mr. G. Woodgate. Third, Mr. G. Wadeson. Scarlet Runner Beans.—First, Mr. G. Woodgate. Second, Mr. P. Newbold. Third, Mr. R. Straw. Spring Onions.—First, Mr. J. Read. Second, Mr. P. Newbold. Third, Mr. G. Woodgate. Carrots.—First, Mr. J. Read. Second, Mr. P. Newbold. Third, Mr. A. Wagg. Turnips.—First, Mr. G. Woodgate. Second, Mr. J. Read. Third, Mr. N. Holder. Parsnips.—First, Mr. J. Read. Second, Mr. N. Holder. Third, Mr. P. Newbold. Vegetable Marrows.—First, Mr. J. Woodgate. Second, Mr. R. Straw. Third, Mr. G. Morris. Lettuce.—First, Mr. N. Holder. Second, Mr. G. Morris. Third, Mr. G. Evans. Cauliflowers.—First, Mr. N. Holder. Second, Mr. J. Earp. Third, Mr. J. Reed. Cabbage, white.—First, Mr. G. Wadeson. Second, Mr. A. Stirland. Third, Mr. A. J. Elphinstone. Cabbage, red.—First, Mr. J. Earp. Second, Mr. G. Woodgate. Third, Mr. J. Woodward. Celery, red.—First, Mr. J. Woodward. Second, Mr. N. Holder. Third, Mr. P. Newbold. Celery, white.—First, Mr. A. Stirland. Second, Mr. P. Newbold. Third, Mr. R. Straw. Red Beet.—First, Mr. P. Newbold. Second, Mr. J. Woodward. Third, Mr. N. Holder. Cucumbers.—First, Mr. J. Earp. Second, Mr. J. E. Woodward. Third, Mr. A. Stirland. Herbs.—First, Mr. G. Woodgate. Second, Mr. N. Holder. Third, Mr. A. Stirland. Unfortunately space cannot be found for the remaining classes.—("Derbyshire Advertiser.")

ONIONS AT DERBY SHOW.

To the combined Horticultural and Agricultural Show at Derby on September 13th Mr. Thomas Wilkins, gardener to Lady Theodore Guest, Inwood, Blandford, sent such a collection of Onions as had never been seen in that town before. It consisted of the following twenty-four sorts—Inwood Favourite, Cocoa Nut, Pink Perfection, Advancer, Excelior, Holborn, Anglo-Spanish, Red Globe, Dobbie's Red, James' Keeping, Veitch's Globe, Somerset Crimson, Ailsa Craig, Golden King, Masterpiece, Somerset King, Maincrop, Challenger, Lord Keeper, Challenge, Prize-taker, Rousham Park Hero, Record, and No Plus Ultra. There were nine specimens of each sort, the only small ones being Red Globe. The whole of the others, without exception, were magnificent specimens that would probably average 2 lbs. apiece in weight, and many of them I should say considerably more. All were handsome, clean, symmetrical examples of high culture, affording an invaluable object lesson, and causing much astonishment among the general mass of visitors, which feeling was combined with admiration in the mind of many a local gardener. The Judges showed their appreciation by awarding Mr. Wilkins a gold medal.

Adverse criticism there was, of course; there never will be results above the common level without somebody posing as a critic to try and belittle them. "Wasteful, I call it," said one of these wiseacres. "S'pose y' send to shop for pound of Onions, what about them there two pounders then?" To my surprise I found the wastefulness or extravagance pre-

sented itself in quite another aspect to the mind of one whom I had reason to regard as a fairly sound practical gardener. His view of the matter was that the extra work involved in the cultivation of such fine Onions was extravagant, because really useful Onions could be had without it. This appears to me about as sensible as to call in question the use of Pea sticks and Bean sticks because good crops of both these vegetables are obtained in field culture without sticks being used. Let us see what goes to the production of such large Onions.

Briefly, and avoiding detail, it amounts to this: Sowing under glass early in January, pricking out in shallow boxes in rich soil, carefully hardening before planting out. I have seen Onions altogether above the size of an ordinary crop from seed sown in pots in a cottage window. To be quite fair, one must admit that some extra care and labour is involved when they are raised in gentle heat, placed in more lively heat to set them going when pricked out, and the subsequent transference from house to house, to pits or frames, to watering, and hardening before planting out.

Extra work in soil tillage consists of digging two spits deep, working a heavy dressing of manure into the bottom spit, and a moderate dressing into the top spit; say about double the quantity of manure and labour of the ordinary, and dare I say old and out-of-date Onion grower? Add to this a few surface dressings of stimulating nitrogenous manure during the summer; and I may say—Gentlemen, there is my case.

Does the end justify the means? Assuredly it does. Is it not claimed for such early sown Onions that they escape, or are safe from attacks of the Onion fly? And then as to size, this is about the only vegetable to which abnormal largeness does not impart coarseness. Large Onions well cooked are one of the most delicious and wholesome vegetables we have, and are so mild in flavour as not to offend even the most fastidious palate.

There need be no fear that smaller Onions will not always be plentiful enough, or that large Onions generally will prove too large. To those who have the privilege of attending the meetings of the Royal Horticultural Society such a collection of Onions may not be an uncommon sight; to those who have not this privilege it is. Regarded from an educational point of view its especial value was in affording tangible proof that all sorts of Onions are capable of improvement under high cultivation. To ordinary intelligence the sight of a dozen 8-pounders of Ailsa Craig conveys an impression of amazement mingled with an idea that the fortunate grower of them has got hold of a specially select strain—something altogether out of the common. It may be so, he is not sure; at any rate some such thought has induced many a man to have a go with early sown Onions, in soil better tilled, better fed than usual, with the gratifying result of a finer crop than he has had before, and freedom from attacks of Onion maggot.—EDWARD LUCKHURST.

WESTMINSTER.—SEPTEMBER 19TH AND 20TH.

The National Dahlia Society held its second exhibition at the Royal Aquarium, and the numerous exhibits displayed certainly justified the fixture. The miscellaneous exhibits proved a great feature, nearly all the leading Dahlia specialists being represented. The amateur section was not so well filled as could be wished.

There were eight competitors in the class for twenty-four Show and Fancy varieties distinct, but Mr. J. Walker came out the victor with a good strong exhibit. The varieties were Dr. Keynes, Harry Keith, John Hickling, Champion Rollo, Mrs. D. Saunders, Mr. Glasscock, Miss Cannell, Duke of Fife, Buffalo Bill, Miss Barber, Dorothy, J. T. West, Imperial, Florence Tranter, Eclipsé, Goldsmith, Queen of the Belgians, Platarch, John Walker, Rev. J. Gooday, Mabel Stanton, Victor, Frank Pearce, and Kathleen. Mr. Chas. Turner, Slough, was a close second, and Mr. G. Humphries, Chippenham, third.

For twelve bunches of Cactus, distinct, there were seven entries, and Mr. Jas. Stredwick, St. Leonards-on-Sea, repeated his Palace success with a capital display in true form. The varieties were Mayor Tuppenny, Mrs. Sanders, William Jowett, Uncle Tom, Viscountess Sherbrooke, Britannia, Magnificent, Eclipsé, Major Weston, Maurice J. Walsh, Chas. Woodbridge, and Mary Service. Messrs. Keynes, Williams & Co., Salisbury, followed, and Messrs. J. Burrell & Co. third.

There were five exhibits of twelve bunches of Pompons, but Mr. M. V. Seale, Sevenoaks, proved the winner with a display of neat blooms. The varieties were Sunny Daybreak, Douglas, Ganymede, Spiffire, Phoebe, Snowflake, Demon, Emily Hopper, Nellie Broomhead, Ernest Harper, Hypatia, and Nerissa, while Mr. Chas. Turner was a good second with Claribel, Captain Boyton, Mars, Douglas, and Bacchus, and Mr. G. Humphries third. The single varieties appear to be under a cloud, for there was only one entry for twelve bunches, distinct. These were staged by Mr. M. V. Seale. The sprays were very attractive, and embraced good bunches of Beauty's Eye, Phyllis, Yellow Perfection, Miss Glasscock, and Folly.

In the amateur section for twelve blooms Show and Fancy varieties, Mr. T. Hobbs, Bristol, proved the victor with a nice even stand. The varieties were Mrs. Gladstone, Duchess of York, Harrison Weir, Eldorado, Jas. Cocker, Florence Tranter, Warrior, Muriel Hobbs, T. J. Saltmarsh, Victor, The Reverend, and Prince of Denmark. Mr. F. W. Fellowes, Luton, was second, and Mr. R. Burgin, St. Neots, third. Six competitors faced the Judges for six sprays of Pompons, Mr. J. F. Hudson, Gunnersbury House, Acton, taking first prize with neat sprays of Eve, E. F. Junker, Douglas, Phoebe, Nerissa, and Orpheus, followed by Mr. W. C. Pagram, Weybridge; and Mr. R. Burgin brought up the rear.

The amateurs made a good display of Cactus varieties, and the class for nine sprays of three blooms each, Mr. R. Keeble, gardener to F. W. Sharp, Esq., Twyford, Berks, was awarded the first prize with a beautiful exhibit, showing Starfish, Harry Stredwick, Britannia, Mary Service, Stella, C. Woodbridge, Viscountess Sherbrooke, Keynes' White, and J. F.

Hudson. Mr. F. W. Fellowes followed, and Mr. W. E. Reeve, Woking, was third. The single varieties made a much better display. Mr. J. F. Hudson was awarded first position with a charming exhibit; the varieties were Donna Casilda, Guilielma, Jack Sheppard, Phyllis, Jeanette, and Naomi Tighe. Mr. E. Mawley, Berkhamsted was a good second; and Mr. W. Mist, Ightham, third.

Messrs. T. S. Ware, Ltd., Tottenham, staged an extensive table of Cactus and Pompon varieties, which were bright and fresh. The Cactus varieties that were most striking were Capstan, Beatrice, Cyole, Fusilier, Magnificent, Mrs. Turner, Falka, Arachne, Mary Service, Starfish, Empress of Austria, Chas. Woodbridge, and Earl of Pembroke. The Pompons were good, particularly Salamander, Whisper, Fairy Tales, Winnie Richards, Mabel, Flora, and Revenge. The Rothesay firm or Dobbie & Co. brought a fine display of Cactus and Pompon varieties, which travelled the long journey well. The huge sprays of both sections were somewhat novel here, many containing seventeen blooms. Those most notable were Countess of Lonsdale, Arachne, Magnificent, Ethel, Ensign, Capstan, Keynes' White, Ruby, Standard Bearer, and Island Queen. The best sprays of Pompons were Nerissa, Bacchus, Phoebe, Admiration, Dagmar, Elegant, Lilian, and Geo. Brinckman; while the front of the exhibit was composed of boards containing specimen Cactus blooms.

Messrs. J. Peed & Sons, Norwood, contributed a large table of hardy flowers. Mr. John Green, Norfolk Nurseries, Dereham, again displayed a capital collection of Cactus Dahlias, flanked on either side with sprays of Pompons. The new varieties, Zephyr, Red Rover, and Golden Plover, were staged on mounds, while good bunches of Eclair, Erasmus, Britannia, Green White, Dr. Nansen, and Dryden helped to make the display fresh and bright.

Messrs. H. Cannell & Sons, Swanley, occupied a large table, which was arranged as a bank on each side. The Cactus varieties were staged in good condition, and embraced all the best varieties, such as Mrs. E. Cannell, King of Siam, Mary Service, Arachne, Britannia, Leonora, Oaklands, Exquisite, Fantasy, Magnificent, Laverstock Beauty, Ranji, Starfish, and Mrs. Dickson. A group of Cannas was also a pleasing feature. The London firm of Messrs. Carter, Page & Co., London Wall, arranged an extensive collection of Dahlias, which embraced the best varieties in each section. Mr. J. T. West, Brentwood, also staged a table of Dahlias.

Messrs. J. Laing & Sons, Forest Hill, decorated one of the fountains with a collection of Ivies, variegated shrubs, Ericas, Chrysanthemums, Palms, and other flowering plants; the whole was tastefully arranged. Mr. M. V. Seale, Sevenoaks, staged a collection of single Dahlias in boxes, embracing all the newer Cactus varieties, and a general collection of Show and Fancy varieties. The Devon Chrysanthemum Nursery, Teignmouth, also contributed a display of Cactus blooms, arranged on boards. Messrs. J. Burrell & Co., Cambridge, staged one of their well known exhibits of Gladioli. The spikes were beautifully fresh and well developed, embracing a great range of colours.

ARALIA SPINOSA.

THERE is a great similarity between the foras of some parts of North America and of China and Japan, a fact first noticed by Asa Gray, and since verified by other observers, notably Professor Sargent of the Arnold Arboretum. This likeness is strikingly shown by the subject of this note, a native of the Eastern United States, and *Aralia chinensis* (syn. *A. manschurica*, *Dimorphanthus manschuricus*), a native of China, which have a great resemblance to each other, so much so that, for general purposes, to have one is to have both.

Aralia spinosa in some parts of the United States forms a small tree 40 feet or more high, but up to the present it has not attained a height of more than 12 or 15 feet in this country, usually making a single stout spiny stem, with few branches. It is fairly hardy, seldom being killed outright by frost, but liable to be cut rather severely in a hard winter, especially after a wet autumn. It should have a position sheltered from high winds, as this plant is very liable to be broken by a sudden gale, more especially when in full leaf, the surface of the large leaves offering a great resistance to the wind. A deep, well-drained soil suits it best, and plenty of room should be allowed for its proper development.

The leaves are bipinnate, and under favourable conditions will attain a length of 3 or 4 feet, and have numerous serrulate leaflets, which are glabrous and shining above, and glaucous beneath. The stem of the plant and the petioles of the leaves are spiny, and a few spines can sometimes be found on the leaves as well. The pure white flowers open in August, and September, and are in terminal, branched umbels, 2 feet or more across, are individually very small, but produced in great numbers, followed in favourable seasons by clusters of small, black fruits. It is propagated by seeds, suckers, and root-cuttings, and is commonly known in America as the Angelica Tree or Hercules' Club.—C.

RUNNER BEAN NE PLUS ULTRA.—There is no better or more generally useful Runner Bean than this, and though its large size may go against it with some, its excellent quality will in most cases insure it a place. Like other varieties it pays for good culture, liking good land and thin sowing. Plants a few inches apart, as sometimes seen, can never come to perfection or produce good pods; 18 inches apart is quite close enough, and the rows should be 12 feet asunder at least. If the old pods are kept well picked off there will be a good succession all through the season.—C. H.

PHYTEUMAS.

THOUGH perhaps not the showiest of the Campanulaceæ, the *Phyteumas* are very pretty, and also extremely peculiar in the formation of their flower heads. They are easily distinguished from *Campanulas* by the wheel-like form of the flowers, which are borne in heads, and from *Jasione* by their having a trifold instead of a club-shaped stigma. Most of the species may be found in cultivation, principally in botanic gardens or of hardy-plant enthusiasts, although they are deserving of more general culture both as rockery and mixed border plants. Most of the taller-growing kinds, such as *P. campanuloides*, *P. orbiculare*, *P. spicatum*, *P. Micheli*, and others, may be grown with ease in the ordinary border, although a higher degree of success will be obtained by the free use of light rich loam, to which has been added a little peat. Others, such as *P. hemisphericum*, *P. pauciflorum*, *P. humile*, and *P. comosum*, are best adapted for rockeries and pots, where they will flourish and flower with remarkable freedom. The three most generally found in gardens are *P. Scheuchzeri*, *P. orbiculare*, and *P. Micheli*, and much confusion exists owing to their varying under cultivation; but even with the variation a little attention will serve to distinguish them, as they seldom, even under the most adverse circumstances, lose all their native characters.

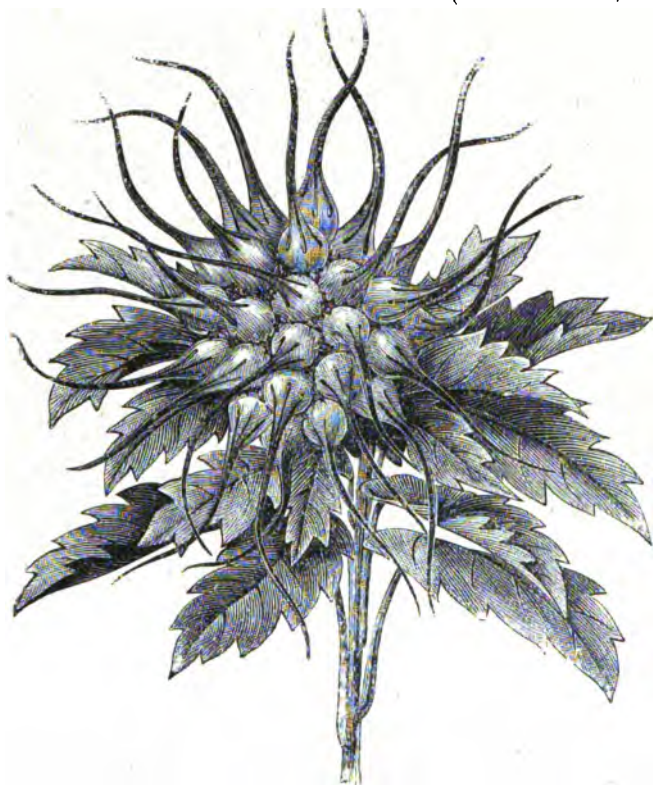


FIG. 51.—PHYTEUMA COMOSUM.

The most handsome of all the *Phyteumas* is *comosum* (fig. 51), as it is also the rarest. Though perfectly hardy out of doors, it never flowers with the same freedom as it does when well grown in pots. In the formation of the corolla this species is very curious. The divisions, as will be seen in the figure, are free only in the inflated part at the bottom, the upper portion being in the form of a tube with an entire mouth. It is a native of the Alps of Austria, at elevations of 4000 to 5000 feet, and is generally found on dry rocky places. From ten to thirty flowers are borne in a sessile terminating bunch. They are about an inch long, curved, and from pale lilac to dark purple in colour. The lower or radical leaves are round or heart-shaped, bluntly crenate; the upper nearly sessile, half embracing the stem. The plant varies greatly from different localities, ranging from 3 inches to a foot in height. It should be grown in a compost of light loam and small stones, and if planted in rockery, a fissure as dry as possible facing south must be chosen. It flowers in June and July.

P. hemisphericum, *humile*, and *pauciflorum* are all very dwarf species, and well fitted for nooks on the rockery.—N.

FAMILIAR WILD FLOWERS.—Parts 24 and 25 of this work having come to hand it is now finished, and should prove of great value to those interested in wild flowers, particularly perhaps to the beginner. Part 24 contains Thorn Apple, Olay and Sheep's Bit, Marjoram and Shepherd's Purse, Meadow Sweet, Twayblade and Enchanter's Nightshade, Ivy-leaved Bellflower, Chamomile and Gipsywort, Blue Fleabane and Mouse-tail, Viper's Bugloss, and Henbane, these completing the coloured plates. The last part forms a summary to the whole, arranged to form the opening pages of each of the six volumes in which it is proposed the work should be bound.

THE YOUNG GARDENERS' DOMAIN.

IMPORTED ORCHIDS.

SOME thousands of Orchids are annually imported, and it is most important that correct methods of procedure be adopted with them from the start. On arrival *Odontoglossums* must be thoroughly cleansed, and be laid thinly on the stage in the coolest house, and shaded from the sun. No syringing will be necessary if the house is kept in a moist condition by damping the available surfaces several times a day. When growth and root action commence is the time to place them in pots, which should be only just large enough to hold the roots. Even then the pots must almost be filled with clean crocks, on the top of which is a small layer of sphagnum moss, then a little of the compost, consisting of equal parts of living sphagnum and fibrous peat, with some finely broken crocks. The soil must be carefully worked round the plants so as to steady it when in the pot. The moss should be encouraged to grow on the surface, as it is of benefit to the plants in assisting to conserve the moisture, besides keeping the compost sweet about the newly formed roots. Water must be very sparingly given until roots are abundant, after which liberal applications of soft water are desirable.

Cypripediums on arrival must be sponged, after which they should be potted into a compost of three parts of peat to two parts of sphagnum. The pots must be well drained, and the base of the plant kept just below the rim of the pot, the size of which must be governed by the quantity of live roots possessed by each plant. Some of the tenderest varieties will not require any compost about the roots, but should be simply covered by small crocks until new roots are made. No water should be allowed to lodge in the axils of the leaves; this is an important point to observe at this critical stage. *C. niveum* is very sensitive in this matter, and it is the chief reason why it refuses to grow in many places. This species is benefited by lumps of sandstone mixed with the compost.

Orchids which have no pseudo-bulbs generally suffer more than others during the journey from their native home to this country, but they require similar treatment at the commencement—viz., a house with a cool even temperature, which should be heavily shaded from all sun. *Angraecums*, *Atrides*, and *Vandas* ought to be placed on the stage of a cool house in an upright position, and no water must be allowed to lodge in the crowns of the plants. The moisture rising from the daily damping of the house will be sufficient for the first few days, after which the old roots may be syringed or sprinkled. This treatment ought to be continued until sufficient moisture is absorbed by the leaves that they become plump. When this has taken place new roots will begin to push out, and the plants will require placing in baskets or pots sufficiently large to hold the plants. After potting a warmer temperature will be essential, but supplies of water must still be limited, and careful ventilation and shading is necessary until established.

Cattleyas, *Dendrobium*, and *Laelias* after being cleaned may be placed in pots large enough for one year's growth. These should be nearly filled with crocks, and the plants steadied by means of sticks, to which the pseudo-bulbs are tied. Water may be poured among the crocks, but sparingly at first; when top and root growth has recommenced place the compost round them in the usual way, using equal parts of sphagnum and peat, to which some charcoal has been added. Overwatering is still a source of danger, and more reliance should be placed on atmospheric moisture until quantities of roots are made; this applies to all species when first potted or basketed.

Some Orchids, of course, require different compost and treatment. For instance, *Thunias* should be laid out on the stage of a cool house, and when they begin to emit roots and growth they require potting in a compost of equal parts of fibrous loam and peat, and a little sphagnum and coarse sand. From six to eight of the long stem-like bulbs ought to be placed at equal distances round a 7-inch pot, each being tied to a separate stick. The base of the pseudo-bulbs must be kept 1 inch below the rim of the pots, and 2 inches of crocks in the bottom will be ample drainage. Grow the plants in a warm house in full sun until the flowers are observable at the apex, when a cool dry atmosphere will be necessary; also shade, or they will not last in bloom any length of time. When the flowers are over place the plants in a greenhouse in full sun, and give plenty of water, gradually withholding it in October; and finally, when the leaves are falling, keep them in the greenhouse until growth starts, which will be in April. They must then be repotted, similarly to that first recommended; and this routine properly carried out will be found to answer admirably.—FOREMAN X.

TRADE CATALOGUES RECEIVED.

- R. H. Bath, Ltd., Wisbech.—*Bulbs and Plants.*
- G. Bunyard & Co., Maidstone.—*Fruit Trees.*
- J. Carter & Co., High Holborn, London.—*Bulbs.*
- W. J. Godfrey, Exmouth.—*Carnations.*
- Harrison & Sons, Leicester.—*Bulbs.*
- A. Perry, Winchmore Hill.—*Bulbs.*
- Pinehurst Nurseries, Pinehurst, N.C.—*North Carolina Plants.*
- Ant. Roozen & Son, Overveen, Haarlem.—*Dutch and Cape Bulbs.*
- L. Spath, Baumschull, Baumschulenweg, bei Berlin.—*General List.*
- W. Sydenham, Tamworth.—*Violas and Roses.*
- T. S. Ware, Ltd., Tottenham.—*Bulbs and Plants.*



FRUIT FORCING.

Vines.—Early Forced and Potted Vines.—There must be no further delay in pruning Vines intended to ripen their fruit by the end of April or beginning of May, and in cleansing the house and Vines, so as to have all in proper working order. Vines in pots should have the laterals cut off close to the canes, but do not injure the main buds. Shorten the canes to about 8 feet, or lower, according to the disposal of the plump eyes or the length required, and dress the cuts carefully with styptic or patent knotting to prevent bleeding.

Young Vines.—Every encouragement must be given for ripening the wood and plumping the eyes. This can only be effected properly when the foliage is kept clean and healthy to the last. Laterals produced after this time tend to retard the ripening of the wood, therefore remove or keep them closely pinched. Where laterals have been allowed to extend considerably they should be shortened by degrees, so as to remove them altogether without starting the principal buds or those on the cane. Maintain a warm, well-ventilated atmosphere, until the canes are ripe, which may be accelerated by having a temperature of 85° to 90° from sun heat, opening the ventilators fully at night. Any super-numeraries intended to produce fruit next season should have the laterals cut away to the principal buds, not, however, all at once, but gradually, leaving sufficient lateral length as an outlet for any excess of sap.

Late Houses of Black Hamburgs.—The Grapes are now well advanced in colouring. The ripening must be thorough, or the Grapes will not keep well, and to effect this a gentle warmth in the pipes is necessary to admit a free circulation of air, and to maintain the night temperature at 60° to 65°. A little artificial heat during the day will also be of benefit in allowing of free ventilation and making the most of sun heat. Hamburgs colour and finish best beneath a good spread of foliage, but it is as well not to encourage lateral growths now; at the same time it must be borne in mind that the tendency to shanking and general lack of colour is accelerated by large reductions of foliage, and equally so by sudden fluctuations of temperature. A little air should be admitted through the top and bottom ventilators until the Grapes are ripe. If there is any deficiency of moisture in the borders it will be better to give a supply now than at a later period, covering with some dry material so as to prevent damp rising. A free circulation of air, however, is the best safeguard against the Grapes damping, for the fungal germs that produce spotting and decay require a still and damp air for germination.

Outside borders will, in most cases, be sufficiently moist, if not they must be watered, and unless the weather is unusually wet, they need not be covered at present; but in wet districts glazed lights should be in readiness for placing them, so as to throw off continual heavy rains. Where the borders are well raised above the surrounding level, have a good slope, and are composed of porous material over thorough drainage, it is not necessary to cover them; but the Grapes sometimes decay wholesale when the borders are very rich and close and soddened by heavy rains.

Late Muscat Houses.—The Grapes are close upon finishing, but they are not by any means matured, as they will continue to acquire colour and quality as long as the leaves are green. There must be no attempt at removing the leaves, but allow them to remain until they fall naturally. The bearing shoots should be given plenty of space, so that throughout their growth every leaf will have full exposure to light.

Where the Grapes are not now ripe the night temperature ought to be kept at 65° to 70°, and the heat should be turned on in good time in the morning, so as to allow of an increase of ventilation, and the temperature be raised to 70° to 75°, and kept at 80° to 85° from the sun. The heat ought to be maintained by reducing the ventilation with the declining sun, and the temperature allowed to gradually decline at night, only keeping sufficient warmth in the pipes to prevent its undue recession, and to allow the top and bottom ventilators to be left open to a slight extent. This will insure a circulation of air, and prevent the deposition of moisture on the berries during the night. If the latter occur the Grapes will inevitably spot. The border must not be allowed to become dry, affording the needful supplies of water on fine mornings when air can be freely admitted. After the Grapes are thoroughly ripe and finished a temperature of 50° to 55° is necessary to keep Muscats in good condition.

Houses of Thick-skinned Grapes.—Late Grapes generally require fire heat during the ripening period, so as to insure a circulation of air, and this they should have until thoroughly perfected. This ought now to be quite complete to insure sound keeping; where it is not the house should be treated similarly to Muscats, with the difference that being mostly black Grapes they must have a good spread of foliage over them. A temperature of 50° to 55° is necessary after the Grapes are ripe for the benefit of the Vines, and the quality so essential to use in such varieties as Gros Colman and Gros Guillaume.

THE KITCHEN GARDEN.

Cauliflowers.—A change to cooler, moister weather has acted beneficially on the Cauliflower crop, and good hearts are becoming more plentiful. The bulk of the plants of Autumn Giant refused to form hearts

at the usual time, but may give a good late supply. They are, in most cases, still too dry at the roots, and might pay well for a soaking of liquid manure. The latest will probably require more protection than merely tucking a few of the older leaves over the advancing hearts, and this can best be given by lifting the plants and laying them rather closely with their roots surrounded by rich soil, either in pits or deep frames, or where they can be protected with mats if need be.

Plants resulting from seeds sown last month are disposed to grow too fast. They will be rendered sturdier and hardier by being pricked out in beds of soil 4 inches apart each way, covering with shallow frames later on, or frames and hand-lights may be set in position and the plants pricked out direct into these. They must not be coddled in any way, but should receive abundance of light and air to prevent them from becoming tender. If insufficient plants were raised sow seeds at once in shallow frames.

Cardoons.—When the earliest plants are fully grown gather the stalks well up together, and keep them in position by means of hay bands wound tightly round them. Soil may then be hanked up against them, and the blanching process be commenced. If the rainfall has not been heavy a watering ought to be given after the plants have been tied up, not banking the soil about them till the next day.

Celery.—Curiously enough there is a fair quantity of good early Celery available, and there is not so much bolting to be complained of as usual. This may safely be attributed to the fact that abundance of water has been supplied during the hot dry weather, whereas in a less dry summer too much dependence is placed upon the fitful supplies that fall to their lot in the form of rain. When once the manure and soil in the trenches become fully occupied by Celery roots the moisture is soon exhausted, and ordinary rainfall makes little impression on it. Before adding either the first or second supply of soil to the trenches examine the soil at the bottom, and if dry give a thorough soaking of water or liquid manure. Moulding up Celery already dry at the roots further excludes moisture, and is the frequent cause of premature bolting or running to seed. If the soil is stiff and lumpy, some added fine soil should be worked in round the Celery, otherwise blanching will be slow, and slugs have every opportunity to do mischief.

Onions.—As usual, Onions raised under glass in February, and duly planted out on good ground, have given much the most satisfactory results, the roots, in addition to being heavy and well formed, maturing early and keeping well, as a matter of course. Many of those obtained by sowing seed in the open ground have not matured properly, are comparatively small, and with thick necks. All ought to be cleared off the ground directly they come away freely, as when left longer, they are liable to start growing afresh, keeping badly accordingly. At this late date it is well to complete the harvesting on dry boards under glass, turning them occasionally. Use the imperfectly matured roots first; the rest will keep best bunched or roped, and suspended in a cool dry shed.

Tomatoes.—The open-air crops are, and have been, exceptionally heavy and good in quality. In some districts much cracking of fruit took place after the rain, and the later bunches have made remarkably good progress. A moderately severe frost is usually fatal to open-air Tomatoes, and disease—but little heard of as yet—may be expected if the weather remains warm and moist. It is well, therefore, to commence cutting large bunches of fruit, hanging them in a warm house, room, or kitchen to ripen. Fruit coloured in this way may not be first-rate in quality, but is quite good enough for cooking. Tomato plants lift fairly well out of some finely divided soils, and any furnished with a good crop of unripe fruit will pay for the trouble. They should be lifted with a moderately large ball of soil about the roots, and either placed singly in pots or boxes large enough to hold them without much reducing, or be set on a bed of soil or a slated staging in a forcing house, and covered with more good soil, training the plants up the roof. If kept well supplied with water at the roots, and shaded from bright sunshine, they may regain their original freshness, and a serviceable crop of late fruit result.



WHEN TO FEED.

How and when to feed are two important subjects in connection with the successful management of bees. We have on several occasions seen much harm done by the careless handling of syrup in the autumn. At this season the bees from a strong colony are on the alert to rob their weaker neighbours. It makes little difference whether they are short of stores or if the combs are filled with honey or syrup. Their tendency is to obtain more, and if the temperature is high, and bright sunshine prevail, they are more likely to have the robbing mania than when it is dull and cold.

Feeding should always be done in the evening, when there are few bees on the wing, and care must be taken that none of the syrup is spilled in carrying out this operation. Bee-keepers may soon prove the wisdom of this by exposing syrup during the middle of the day. Bees will detect it in a few minutes, and although it may be removed to a place of safety, if they once obtain a taste of it, there will be some difficulty in preventing them gaining access to the stores of a weak colony. And once they gain an entrance the stock is doomed,

unless strong measures are taken to prevent them. Feeding bees in the morning has the same effect, although it may have been most carefully done.

If the bees are fed about an hour before it is dark they will not be molested by the inmates from the other hives. Syrup should always be given warm at this season, and if made according to the instructions given in previous notes it is surprising the quantity a strong colony will store during the night. On examination the following morning the feeder—unless it is of an extra large size—will be found empty. The bees during the day will be busy preparing it for sealing over. There will be no excitement among the other colonies, and robbing will not take place. A word of caution is necessary when feeding rapidly in the autumn, and that is never to use foundation, but fully drawn out combs.

COVERING UP FOR WINTER.

After the colonies have been provided with sufficient stores the feeders should be removed, as they lower the temperature of the hive. It is not advisable to disturb the bees more than is necessary at this season. For this reason the combs need not be lifted out of the hive to know whether there are sufficient stores, as with a little practice one can tell the condition of each stock. The plan we adopt to judge the weight is to lift each hive at the back; allowance is made for the weight of the hive, and there is no difficulty in forming a correct opinion of the weight of stores contained in each hive.

By working on these lines the bees are not disturbed, and the bee-keeper has the satisfaction of knowing his bees are well provided with stores for the next six months. The advantage to be derived from this plan is not only at the present time; but if any doubt exist during the winter it is only necessary to test the weight, and if found light a cake of candy will keep the bees in good condition until a thorough examination can be made.

All stocks may now have some extra coverings, such as old carpet, or anything that is warm placed over the quilt, so as to keep the bees as warm as possible. If the material is of an open porous nature too much cannot be used. We do not like anything that is waterproof, as the moisture often condenses on it. If a piece of wood is placed on the top of the coverings and weighted down with a brick, there will be no escape of heat from the hive.—AN ENGLISH BEE-KEEPER.



•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Books (Colchester).—Write to the Secretary, Royal Horticultural Society, 117, Victoria Street, Westminster, for the books you require. Both the "Principles and Practice of Judging" and "British Apples" have appeared in different journals of the Society, all of these being sent free to Fellows.

Grease Bands for Fruit Trees (J. B.).—The paper known to the trade as "butter paper," not waxed, but "grease proof," 20 by 30 inches, may be procured from Messrs. Shoolbred & Company, Tottenham House, Tottenham Court Road, London, price 6d. per quire, 9s. 6d. per ream, and will be found to answer the purpose admirably.

Standard Mignonette (Journeyman).—On page 248 you will find a practical article on the culture of standard Mignonette, which will be of more service to you than the brief replies we are able to give in this column.

Book—Weed Killer (Dr. C.).—Beyond the one you possess there is no work specially devoted to the subject. We have found all the advertised weed killers thoroughly effective, the articles being administered according to the instructions. The Acme Chemical Company's Weed Killer, Tonbridge, Kent, may be mentioned, without prejudice to others, as very effective.

Peach not Turning Soft (G. F. W.).—The Peach is Stirling Castle, a very excellent variety, hardier than the type (Royal George), though the leaves are glandless. The fruits, as you may have noticed, are affected by a mould, the fungus known as brown rot, *Monilia fructigena*. This has the effect of hardening the flesh and preventing softening, the fungus attacking the fruit when about half ripened. It is rather uncommon, but not so much so as generally supposed, and it is one of the chief causes of gumming.

Hound Berry Among Tomatoes (J. F.).—The spray is that of the Hound Berry (*Solanum nigrum*), a native of Europe, including Great Britain, and is an annual. It has probably been in the soil, and is a common weed in some localities. The black berries, sometimes red or yellow, are regarded with suspicion, but they have been eaten without any dangerous results. The leaves, however, are poisonous to sheep.

Heating a Small Greenhouse by Oil (F. J.).—The matter of heating by oil and by coal is only a question of boiler or rather furnace provision for consumption of fuel and relative cost, oil being more costly than coal. Such boilers are made to heat up to 90 feet or more of 4-inch piping, hence your house, 20 feet by 6 feet, would be well heated by a 3-inch flow and return pipe the length of the house or 40 feet of piping, and even 2-inch pipes would be sufficient to keep out frost. Four-inch pipes, however, are best, as the heat is more regular and radiated at a lower temperature. Write to some of the horticultural builders advertising in our columns, stating your requirements, and asking for particulars—say to Mr. Cooper, 755, Old Kent Road, London, S.E., who supplies the Amateur Assistant Boiler, costing about £1. It is heated by oil or gas.

Chrysanthemums Madame Carnot and G. J. Warren Buds Black (W. H. P.).—The buds have probably been infested by the Chrysanthemum bud mite, *Phytotus Chrysanthemi*, first figured and described by Mr. Abbey in the *Journal of Horticulture*, September 28th, 1893, page 290. The mite destroys the buds when about the size of large peas, and they turn brown or black, fungus following, but this is purely saprophytic. The other healthy buds, "eaten inside by a very small insect not much longer than the Eucharis mite," are probably attacked by the Chrysanthemum bud mite, in the eight-legged condition. In the absence of specimens we are unable to determine positively. There is no remedy only removing and burning the infested buds. As a preventive, spraying with sulphide of potassium or liver of sulphur, $\frac{1}{2}$ oz. to 1½ gallon of water, shortly before the buds appear, and repeating about every ten days, is the best we have tried, both as regards the mite and fungoid pests.

Raising Fruit Trees from Seeds (Socialist).—Apple seeds or pips are chiefly obtained from the cider mills. They may be sown at once in beds 4 feet wide, covering the seeds with about an inch of soil. Thin sowing must be practised, for the plants will attain a height of 6 to 12 inches or more the first year. In the autumn they are planted in rows a yard apart, and from a foot to 18 inches asunder in the rows, and the following July they are ready for budding, or if the stocks are weak not until the following year. Grafting is performed at the end of March and during April, according to the season and locality, on two-year-old plants. The modes of budding and grafting are described in "Profitable Fruit Growing," by John Wright, to be had from the office of the *Journal of Horticulture*, 12, Mitre Court Chambers, Fleet Street, for 1s. 3d., post free; but for fruit trees generally the best work is "The Fruit Growers' Guide," published by Messrs. Virtue & Co., London, price £3 3s.

Lime Tree Infested with Mites and Borers (A. I. S.).—The piece of bark is smothered with the Lime tree red spider, or properly spinning mite (*Tetranychus tiliarum*), both in the larval and perfect state. The pests are now seeking hibernating quarters in the crevices of the bark at the base of the tree and even roots, where they roll into little globular forms, and pass the winter. The yellow dirt is the excrement of some beetle or may be caterpillars of the wood-eating moths, the bark being covered with a glass-like substance, due to exudation caused by the burrowing of the borers. We found no traces otherwise of the work of the latter. If the latter have obtained a good hold of the trees, the best plan would be to cut them down and burn them. As the trees may be of service for many years, if not badly infested by the borers, the mites being quite a secondary consideration, as they are easily destroyed, we advise washing the trunk with gas liquor diluted with six times its bulk of water, applying with a brush, reaching well into the crevices of the bark and quite down to the roots, also dressing the large limbs. This should be done without delay, not using so lavishly as to run down the stem to the roots. After washing the stem and large limbs the trees may be syringed with the gas liquor diluted with twelve times its bulk of water, wetting every part. The ammoniacal liquor will act as a manure to the soil and benefit the trees the following season. If you decide to remove the trees and plant others in their place after removing the roots, trenching the ground and enriching it with manure, the common Locust Tree or False Acacia (*Robinia Pseudacacia*) would be most desirable. In a dry season it holds the foliage much better than Limes.

Planting Narcissal and Daffodils (T. Q.).—The best time to transplant these bulbs is in July and August, the season when they are usually dormant. New roots are made simultaneously with the dying of the old ones, or very shortly afterwards, hence if transplanting takes place later in autumn more or less injury or check to the new growth must take place. Of course purchased bulbs are planted much later, but the earlier it is done the better, never deferring the planting after the end of this month or the beginning of October if avoidable, though we have had fair results from planting in November.

Mushroom Beds in Houses or Sheds (Idem).—The best time to make Mushroom beds in these is from September to January. Beds formed at the beginning of the first named month come into bearing at the end of October or beginning of November, and fresh beds made about every six weeks to the end of January or beginning of February maintain the supply until April, when they become maggoty, and are best grown outdoors or in cool sheds with a north aspect.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. (H. S.).—As we have said before, specimens of the young wood must accompany Plums sent for identification; your fruit resembles Coe's Golden Drop; the Pear is Hesse. (R. M. W.).—Pearson's Plate. (J. H.).—1, Mabbot's Pearmain; 2, Gascoyne's Scarlet Seedling; 3, Colonel Vaughan; 4, Lady Henniker; 5, Seaton House; 6, Scarlet Nonpareil. (J. R. S.).—1, Golden Winter Pearmain; 2, Seaton House; 3, The Queen; 4, Lord Derby; 5, Tower of Glamis; 6, Alfriston. (W. E.).—1, Calville Rouge Précoce; 2, Cox's Orange Pippin; 3, Blenheim Pippin; 4, Ribston Pippin; 5, Mrs. Barron; 6, Gascoyne's Scarlet Seedling.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Surrey).—1, Probably *Esculus Pavia*; 2 and 3, forms of *Quercus Ilex*, the Holm Oak. (Garden Boy).—*Coleuses* come within the category of florists' flowers, and your only means of certain identification is to forward them to some nursery where you know a good collection is grown, to be there named by comparison.

COVENT GARDEN MARKET.—SEPTEMBER 20TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2	0 to 3	Nectarines, per doz.	8	0 to 6
Cobnuts, per 100 lb.	7	0 to 0	Peaches, per doz.	8	0 to 6
Damsons	4	0 to 5	Pears, Californian, case	8	0 to 6
Figs, green, per doz.	1	0 to 8	Pines, St. Michael's, each	1	0 to 6
Grapes, black	0	6 to 8	Plums, English, per sieve	3	0 to 5
Lemons, case	14	0 to 20	" Californian, case	4	0 to 8
Melons	0	6 to 1	Walnuts, fresh, bushel	20	0 to 0
" Rock	1	9 to 2	Trade very quiet.		

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1	0 to 2	Lettuce, doz.	1	8 to 2
Aubergine, per doz.	1	6 to 2	Mushrooms, lb.	0	6 to 1
Beans, ½ sieve	2	6 to 8	Mustard and Cress, punnet	0	2 to 0
" Scarlet, sieve	2	6 to 4	Onions, bag, about 1 cwt.	4	0 to 4
Beet, Red, doz.	0	6 to 0	Parley, doz. bunches	2	0 to 4
Cabbages, per tally	7	0 to 0	Peas, per bushel	6	0 to 8
Carrots, per doz.	2	0 to 8	Potatoes, cwt.	2	0 to 5
Cauliflowers, doz.	2	0 to 3	Shallots, lb.	0	3 to 0
Celery, n-w, per bundle	1	9 to 0	Spinach, per bushel	2	0 to 4
Cucumbers, doz.	2	0 to 4	Tomatoes, per doz. lbs.	2	0 to 3
Endive, doz.	1	6 to 2	Turnips, bunch	0	8 to 4
Herbs, bunch	0	8 to 0	Vegetable Marrows, doz.	1	0 to 6
Leeks, bunch	0	2 to 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8	0 to 4	Lily of the Valley, 12 sprays	12	0 to 15
Asparagus, Fern, bunch	2	0 to 2	Maidenhair Fern, doz.		
Carnations, 12 blooms	1	6 to 2	" bunches	4	0 to 6
Cattleyas, per doz.	12	0 to 18	Marguerites, doz. bunches	8	0 to 4
Chrysanthemums, white			Mignonette, doz. bunches	4	0 to 6
doz. blooms	6	0 to 9	Montbretia, per bunch	1	0 to 1
" yellow doz. blooms	6	0 to 8	Odontoglossums	5	0 to 7
" bunches var.	0	3 to 6	Pelargoniums, dozen		
Eucharis, doz.	4	0 to 6	" bunches	4	0 to 6
Gardenias, doz.	1	6 to 2	Roses (indoor), doz.	2	0 to 8
Geranium, scarlet, doz.			" Red, doz.	1	0 to 2
bunches	4	0 to 6	" Tea, white, doz.	1	6 to 2
Lilium Harrii, 12 blooms	4	6 to 5	" Yellow, doz. (Perles)	2	6 to 8
" lancifolium album	2	0 to 3	" Safrano, doz.	2	0 to 2
" " rubrum	2	0 to 3	Smilax, bunch	8	0 to 4
" longiflorum, 12 blooms	4	0 to 6			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vite, var., doz.	6	0 to 8	Foliage plants, var., each	1	0 to 5
Aspidistra, doz.	18	0 to 8	Fuchsias, doz.	4	0 to 6
Aspidistra, specimen	15	0 to 20	Heliotropes, doz.	6	0 to 9
Chrysanthemums, per doz.	6	0 to 8	Lilium Harrii, doz.	12	0 to 18
Crotons, doz.	18	0 to 8	Lilium lancifolium album	8	0 to 4
Dracena, var., doz.	12	0 to 8	" " rubrum	8	0 to 4
Dracena viridis, doz.	9	0 to 18	Lycopodium, doz.	3	0 to 4
Erica various, doz.	8	0 to 6	Marguerite Daisy, doz.	6	0 to 8
Euonymus, var., doz.	6	0 to 18	Myrtles, doz.	6	0 to 9
Evergreen, var., doz.	4	0 to 18	Palms, in var., each	1	0 to 15
Ferns, var., doz.	4	0 to 18	" specimens	2	1 to 6
" small, 100	4	0 to 8	Pelargoniums, scarlet, doz.	4	0 to 6
Ficus elastica, each	1	6 to 7			

Bedding out plants in variety from 8s. doz.



THE POTATO HARVEST.

WHILST the area of the grain crops of the United Kingdom has been decreasing the area occupied by Potatoes has been extending. Potatoes are grown now much more generally than they were thirty years ago, and farmers who in those days would have scorned to demean themselves by Potato growing are now cultivating the tuber very largely, and well known names could be mentioned as examples.

Prejudice has much to answer for in the agricultural world, and the ancient customs of many large estates, unalterable as the laws of the Medes and Persians, have often stood in the way when the possession of splendid Potato land should have meant a highly profitable crop to the occupier. To a large extent the same thing applies yet, and the tenant, bound by an agreement not to plant more than 1 per cent. of his holding with Potatoes, runs the risk of a heavy fine if he exceed that proportion without special permission.

There is, however, another factor at work to prevent increase of the Potato area—the labour question. This is the corn harvest difficulty, magnified four times. An acre of grain may now be harvested for about 10s. or 12s.; an acre of Potatoes will cost £2, if hands can be got to do the work. A few years ago very large numbers of Irish labourers came over for the harvest, and a good proportion of them stayed to help lift the Potatoes. Few Irishmen come over now, and they are difficult to retain after the corn is in, as they seem more anxious to be returning home, and are evidently less dependent on wages earned on English soil.

We believe that the British Isles contain the best Potato soil in the world in combination with a suitable climate; but what proportion of our Potatoes is grown on suitable soil? The answer to that question would be very interesting. No crop is more fastidious as to its habitat than the Potato; yet we find it dumped down to make an attempt at reproduction on poor sand, wet peaty bog, or heavy clay, because the railway station or market are close at hand, and labour of a kind to be had at a price.

As a consequence the long-suffering consumer has to eat Potatoes

varying from the blackened produce of the sand to the soap and wateriness of the clay, and must do so until he awakes to the fact that he can have better at the same price if he will only put his foot down and insist on it.

Soil has more to do with the production of good quality Potatoes than the kind or variety. Any variety will be good from land such as there is about Dunbar in the Lothians. When we see in the paper the market quotations of Covent Garden or Spitalfield, and notice that the highest price is obtained for Dunbar Reds, we must not conclude that we are reading of a red-skinned Potato, but one grown on red soil, and having its white skin more or less reddened by the soil still adhering to it. Dunbar is not the only district where there is red soil; there are many similar patches scattered about the country. Soil like this has only one serious rival as to Potato production—viz., the warp or alluvial soil abutting on the estuaries of tidal rivers. Some of the latter is natural, and was deposited by the tides ages ago. Some is artificial, and has been formed by the warping process. Both are excellent and indispensable for the growth of Potatoes, and to that purpose are largely devoted. On red soil and warp all that is required is a good disease resisting and heavy cropping variety. Quality will look after itself, being natural to the soil.

Having grown our Potatoes, whether on suitable soil or not, it will soon be time to take them up. Any of the second early varieties, such as Giants, Elephants, Jeannie Deans, or British Queen, should be lifted at once, in fact any sorts that have the skins fast or nearly so, and whose haulm has shown strong signs of decay.

We fear that this season the later kinds encouraged by the recent heavy rains will make a renewed growth, which will seriously postpone the harvest and spoil the *shape and quality*, though it may largely increase the *bulk* of the crop. In any event we must give the crop full time to mature. If we lift it too soon, unless it is marketed at once, the tubers will not keep, and there will be loss in the storage, whilst quality will be the minimum.

There are many opinions as to the best way to lift Potatoes, some prefer the old-fashioned hand-fork, but it is expensive, and carelessly used, very destructive to the tubers. Rotary diggers are excellent where the ground is firm and not too dry, they leave the Potatoes on the surface, and easy to gather, so that any child might pick them up. No doubt these machines present to us the easiest, and cheapest solution of the Potato-lifting difficulty, and were it not that they are apt to bruise and damage an undue proportion of the crop, they would soon become almost universal. Unfortunately no machine has yet been invented which will gather up the Potatoes as well as fork them out of the ground. Necessity, caused by the scarcity of nimble fingers, may prove to be the mother of invention in this case as it has in others.

The old Potato-lifting plough with its sloping tines in place of a mould-board, is still very useful, and clung to by many shrewd growers. Less tubers are damaged by its use than by any other process of lifting, and where competent hands can be found to scratch out those only partially exposed, there is reason to believe that in spite of its being more expensive than the spinning digger in the first instance—i.e., in the labour required to follow it, it may be the most truly economical when the question of damaged tubers has been taken into account.

WORK ON THE HOME FARM.

We have had one good rain, which seems to have broken up the heat. The rain has done wonders for the root crops, and they have much improved on their recent desperate condition. A good half crop is as much as we can hope for even yet, but that is better than utter failure.

More rain must fall before we can plough. We have seen some attempts made, but it is poor work at best, and can only be called skinning. Time is passing away so rapidly, and seed time is so near, that it is only natural farmers should be anxious to have the seed-bed ready.

Many farmers have been working the spring cultivator in the stubbles since the rain; the implement could not penetrate very deeply, but was sufficient to stir the surface and root up the small tufts of twitch. Fortunately Wheat stubbles are clean this year, and require little autumn following.

The young plant of Clover is a very doubtful quantity. Already we hear of fields being given up as hopeless for next year's grazing, and of their being broken up with the cultivator and sown with a catch crop

mixture of Winter Oats, Tares, and Trifolium. This should be ready to stock by Lady Day, and the idea is to graze the land until midsummer, then break it up and sow with late Turnips.

Other fields where the Clover plant is nil will be got ready for Potatoes, and the seeds that have been summer grazed and would have been succeeded by a Potato crop, will have to lie another year. They will be manured during the early part of winter, and the manure will both protect the seeds from frost and encourage the growth of the Clover, which otherwise might be inclined to dwindle away.

The Wheat sowing period again makes us think of how to get the best varieties. We have ourselves as yet seen nothing to beat Scholey's Squarehead on heavy land, but on peat or sand we shall recommend Stanhope White or Cole Ambrose, both of which are healthy in the straw and mature well. The quantity sown should vary between 8 pecks per acre on October 1st to 12 pecks in mid November, graduating the quantity between.

OUR LETTER BOX.

Hay Measurement (S. S.).—Multiply in yards the length, width, and height, the latter being half way between the eaves and the pitch of the roof. Having ascertained the number of cubic yards, divide by 10, and you will find the number of loads, if the hay be of average quality and weight. The number of cubic yards per load might vary from 9 to 12 or even more.

IRISH FLAX.—In the farm section of the Newtownards Show, held on the 7th inst., roots and cereals were well shown. Mr. George Walker, J.P., of Knock, who devotes his time to Flax development, staged specimens of Flax straw, having roots extending over 6 feet. The exhibit had attracted a large meed of attention, due to the lesson it bore, that deep cultivation for Flax is not to be treated lightly.—A. O'NEIL.

BUTTER PRODUCTION EXTRAORDINARY.—The Americans are wonderful people for going one better than their opponents in everything they undertake. In these countries, Jersey breeders are content with getting their animals to average a pound of butter for every gallon and a half of milk which they produce; but our Yankee cousins have gone so far in effecting improvements in the butter-producing capacity of their Channel Island cattle that in a test which was recently conducted in the States, eight cows produced an average of 1 lb. butter to every 7.21 lbs. of milk. This is equal to a pound of butter, to rather less than three-quarters of a gallon of milk.—(“Irish Farmers' Gazette.”)

AN ENGLISH CALF BREEDER'S MIXTURE.—An authority says: “A prominent English stock-breeder claims to have had most successful results in the feeding of his calves by the use of a combination of grain foods, which enables him to completely dispense with milk after the animals are a few weeks old. This gentleman makes up a mixture of 7 lbs. of linseed cake, 2 gallons of hay tea, and 7 lbs. of mixed meal consisting of equal parts of Wheat, Barley, Oats, and bonemeal dissolved in 4 gallons of hot water. One gallon of this mixture is given twice daily mixed with its own bulk of water, and on this the calves are said to thrive remarkably until they are fit for weaning. The mixture costs from 1s. 3d. to 1s. 6d. per head per week.”

THE FEEDING AND TREATMENT OF YOUNG STOCK.—The feeding given to young stock should largely depend upon their breeding, their age, and the use to which they are intended to be put. Young animals require bone and flesh-forming material to a much larger extent than animals of greater age; older animals increase in weight chiefly by laying on fat, and for this reason the food best adapted for them is one containing a goodly proportion of fat-forming materials—carbo-hydrates as the chemists call them. When, says a contemporary, young stock is being reared for the butcher's block the object of the feeder should be to encourage the laying on of as much flesh as possible within a certain time. It is, of course, different where the animals are to be used for breeding purposes, but even in this case it always pays to keep them in good condition, as the produce of animals so treated will always do better than the stock bred from parents which are kept in a thin impoverished condition during the early stages of their existence.

THE HOP CROP.—As so many conflicting statements have been made about the Hop crop, a representative of the “Daily Chronicle” called at the Hop Exchange early last week, to learn what the London merchants had to say. It is only too true that a serious blight has affected the Hops this season in several parts. Of course some of the merchants, having got the early crops, or arranged for supplies from the unaffected areas, will do more business than ever, because they will gain all the advantage from the rise in prices which is expected to follow. Altogether there are some 52,000 acres of land in this country given up to Hop growing. The estimated yield this year was about 600,000 cwt. That estimate has had to be materially reduced, owing to large tracts of Hop fields having been entirely spoiled by vermin. Some of the best growing districts have been affected, notably the Weald of Kent and in Mid-Sussex. The consequence is that hundreds of acres in these districts will not be pulled at all. The blight is caused by vermin, which eats into the cone of the Hop and destroy it. The disease has only shown itself during the past three weeks, and has naturally caused much anxiety among growers and merchants. There is no accounting for it. Some blame the hot weather, following early morning fogs. Others say the vermin are liable to come at any time, and that growers always run the risk of having their crops spoilt by the little creatures. The whole season's crop will not only be much less in quantity, but inferior in quality. The early pickings escaped the blight, and are consequently in good condition.



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12 Narcissus incomparabilis	15 English Iris
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Journal of Horticulture.

THURSDAY, SEPTEMBER 28, 1899.

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IS GARDENING ADVANCING?

MONSTROUS! some will say, is such a question at such a time; and certainly it is not without diffidence it is propounded. It is one, however, that has for some little time been mentally insinuating itself, and asserting, too, a more or less peremptory demand for an answer. Readers will doubtless recollect a controversial discussion in the *Journal of Horticulture*, entitled "The Decadence of Gardening," which was settled, satisfactorily one thinks, by an authoritative and masterly quashing of the indignant, in a clear and pointed reference to the great changes which the exigencies of our own times demand and bring about. The question here propounded differs from that, inasmuch as it prefers no sweeping indictment; yet the "decadence" discussion implanted a germ which has since been fertilised by little things—perhaps rather felt than seen—into activity. Being, then, neither of spontaneous growth, nor begotten of a solitary opinion, there is, it is hoped, sufficient reasons for its publicity. Can such a debateable question, with the possible discussion it entails, serve any good purpose, or justify its promulgation in these pages? may very reasonably be asked. The propounder at least ventures to think it may, for being on the momentous eve of another century, a little mental stocktaking can scarcely be superfluous as addenda to the closing chapter of a passing century's noble volume of gardening history.

Gardening having hitherto advanced by leaps and bounds, and gardeners being so thoroughly imbued with the spirit of progress, it is, perhaps, not agreeable to contemplate having reached the end of our tether—to be henceforth and for ever confined within the boundaries of a beaten track; yet the ground covered has been so vast, and is so capable of variable expressions of gardening power, that any tendency towards stagnation is not only highly improbable, but well-nigh impossible. Some may say, with regard to the many improvements so palpably perspicuous over a few decades, Are there any tangible grounds for entertaining even the suspicion of gardening having reached the zenith of its power? Fruits, vegetables, and flowers

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are so much bigger, better, or brighter, that it may appear as vain presumption to suppose the biggest, best, and brightest, are not still possibilities of the future. Granted that it is so, will that happy realisation mark any real advance in gardening? may still be asked. It is not for a moment supposed that any gardener worthy of the name will ever view the matter as one curtailing his power or foreshortening his labours of love. Men of energy and resources are not prone to adopt a rest-and-be-thankful attitude on the easy couch of past achievements; and doubtless the dawn of the twentieth century will disclose ample margin for change, variety, and novelty in gardening. All this goes without saying, but still leaves unanswered the question, Is gardening advancing?

Going back. "Why gardening is going back," said a gentleman to the writer last spring, while inspecting a house gay with representative collection of Cinerarias and Chinese Primulas. This arose from our newest advance (?) in the forms of these favourite flowers—viz., *Primula White Lady* and *Cineraria stellata*, both of the old starry type. Advancing backwards! Really, without any disparagement to these beautiful, if simple forms, the examples in question appeared to warrant such an assumption. Other instances are not wanting, all of which tend to show, it must be admitted, a healthy progress, derived, if the paradox is allowed, from retrogressive action. It is not a matter for surprise that many who have noticed the rapid development of some of the more showy and beautiful of our florist's flowers from an obscure parentage, should look for greater things to come. It must be obvious, however, that with some of these flowers the limit has been reached, and with a few over-reached, as witness the new diseases, rusts, blights, and what not, the Nemesis of angry Nature, who will not forgive the trespasses of those who trespass too far against her.

Changes there are in fashions, tastes, and methods, but these may, or may not, mark any real advance. How often is our gain in one direction counterbalanced by loss in another. It is easy on the one hand to point to many examples in the way of plant culture alone which are decided gains in the gardening world, yet it is but fair in forming our balance sheet to place *per contra* the losses which have been sustained by the relegation of certain classes of plants which exercised the skill and care of grand old gardeners of the past, to obscurity. This is obvious without going into detail. Who, with regard to fruit culture can, in visiting some old world garden, where the relics of departed glory in the form of trained trees still linger on the walls, deny that there were giants in those days? and, also, although the desire for novelty has swelled and may still swell the number of varieties, the leading fruits of other days still head the list? Under glass, with Grapes for instance, we may suppose that if the latter-day gardener was confined to two varieties, he would, for quality, be true to the faith of his fathers in those sterling kinds, Muscat of Alexandria and Black Hamburgh. Such are the thoughts which momentarily occur, yet it must be stated, a little aside of the subject, rather is it from our present standpoint and the near future are deductions to be drawn than comparisons made with the present and the past.

Up-to-date is a common expression; yet from this standpoint alone does the pertinency of our question become truly apparent. What says the cook? Does he (or she) want anything better than the best as now existing? Take any vegetable in common use, such as the Cabbage, Cauliflower, Peas, Beans, Tomatoes, or Potatoes in all their endless variety and perfection of form and quality, is anything better to be desired or expected? One thinks not. True, the ingenuity of raisers may be taxed to produce French Beans from climbing stems, Scarlet Runners which shall run no more, or, say, Vegetable Marrows from erect bushes; all such promise no prospective advance for culinary purposes—no gains to the twentieth century table. In the floral world a certain finality, if not already attained, seems imminent, for, it may be repeated, what is gained in one direction seems counterbalanced by losses in another; but the subject is a broad one, and, broadly speaking, no narrow construction should be placed upon it. We gain a new Orchid, or some obscure type of hardy plant is improved into notoriety, yet contemporaneously an old favourite lapses

in popularity. It has had its day, and will only exist on sufferance in some garden not up to date. How often the pages of "Our Journal" attest this in reproducing the illustration of some now out of date but once popular plant which a young gardener thinks sufficiently beautiful or interesting to prompt inquiry right away. From such data as the above, as well as other which need not at present detain, is derived the question, Is gardening advancing?—WESTERNER.

SUNSHINE IN GLOOMY WEATHER.

How "our Journal" teems with valuable ideas! You can't take up a number without deriving benefit, instruction, and amusement (the latter of a most wholesome kind). "Our Journal" is so broad minded; it records the advice of the wise old gardeners; it allows the coming ones to air their views; it encourages the diffident and checks (very kindly) the forward. Like Solomon, it discourses of the Cedar of Lebanon to (if not the Hyssop on the wall) the smallest Alpine plant on a town rockery. Its aims are high. "Forward!" might be the motto. Think of the thousands of gardeners the Editor caters for; and he is so mindful of their well-being. He thinks of the future time when backs will no longer bend, and eyes will be too dim, and legs too tottery to do even the smallest service in the garden.

I notice (on page 243) the farmers are to have a little chance. There is just a suggestion that some harvest festival moneys may be devoted to providing, through the Royal Agricultural Benevolent Association, little incomes for destitute farmers, their wives, widows, or daughters; and it occurred to me to wonder whether our three great Gardeners' Benefit Societies were getting all the support that is their due. There are three grand lists of names of those who subscribe; but when we think of the poor folk who need help, we cannot but wish the lists were doubled.

Being a "mere woman," I appeal first for the orphan children. Anyone with a heart must have a tenderness for these poor mites who are left with so little equipment to fight the hard battle of life. A gardener's wages are not, as a rule, extravagantly great, and babies come to his cottage possibly with greater rapidity than they do to the mansion. Sickness and death come when least expected, and what can a poor mother do whose only possessions may be the memory of her husband's good name, a bit of furniture, and a houseful of bairns? 5s. per week till the child is fourteen does not perhaps sound lavish riches; but it means a great deal—more than you or I perhaps guess, nor is that the end. At fourteen years there is a grant of £10 to give the child a fair start. How much can be done with £10? It is often difficult for a father to find that sum at the critical time, and here it is supplied. If the child has anything in him, if the £10 is wisely spent, he should never look behind him again. A subscription of 5s., something like 5d. a month! That might be spared by many more of us if we only would. Now, my next remark will, in a measure, apply to the other two societies of which I will speak.

The gardener of many a fair domain is, we will suppose, a supporter of this excellent institution. He often comes in contact with the lady of the house—a copy of the report, a few well chosen words, and there is every possibility that next time subscriptions are due the lady and the gardener are both down. So many of us are just now busy with bulb catalogues, they are so seductive. Could we deny ourselves a little and think of the human blossoms who have to bloom in very wintry weather?

Enough of the children, they plead their own cause. We turn to children of a larger growth. We have looked in vain for some well known names in the lists of donors or subscribers.

The Societies to which we refer are the Gardeners' Royal Benevolent and United Horticultural Benefit and Provident Society. The first named Society is doing very good work. After the age of sixty has been reached, a successful candidate is entitled to a pension of £20 per annum male, £16 female. If through illness or accident there is total incapacity for work, the age limit is not insisted on. There is an allowance to meet funeral expenses, and best of all there is a rule by which subscribers of long standing can obtain all the benefits without being at the trouble and expense of election. That means a good deal. Have my readers ever tried collecting votes? It is weary, heart-rending work, as we well know. The horse may starve while the grass is growing, so to some of these poor old folk the time of waiting is often a time of great hardship and privation. A Jubilee Fund comes in now, through the agency of which a little help is doled out to the weary waiters, thus bridging over the time of greatest trial.

To encourage subscribers again there is a table thus. A subscriber for four years is credited with 50 votes, five years 100, and so on. This must be an incentive to regular effort, in fact it amounts to a sort of insurance fund. We spare so easily our £1 ls. here and there for our selfish pleasures, could not we by a little self denial help in aiding those who by their work have contributed so much to our pleasure?

"Evil is wrought through want of thought" often and often again, and it is because the subject is not presented to us that we forget that there are others not so fortunate as ourselves. If we don't want to be bothered by a yearly subscription, there is another way out of it—a lump sum down—and it strikes me that is a good plan where it can be afforded. Let us be where we may, the Society will have got the money, and know how to make good use of it.

The third institution that has come under our notice is the United Horticultural Benefit and Provident Society. Its objects and aims can be easily stated. Firstly, by allowing sick pay until the member reaches his seventieth birthday; secondly, by assistance from the Benevolent Fund after attaining seventy years of age, in time of sickness or in seasons of distress. There is also an arrangement by which members can be given a change of air during convalescence. This will often, it appears to us, be the quickest way of working a cure. Change of air is worth many bottles of medicine, however skillfully compounded.

We often wonder if the gardeners' wives ever read "the Journal," because these Societies ought to appeal to them. They generally plan out the spending of the wages, and wonderful managers they are! Talk about a Chancellor of the Exchequer, why I know many a poor village woman who can manipulate facts and figures with the best of them. It must be a tight fit sometimes—many little comforts and pleasures sternly put to one side so that all demands may be met fairly and honestly. I could tell tales of cottage management which ought to put many educated women to the blush. Small means, large families, with unpreventable sickness, and a surplus at the year's end!

The management of these Societies is in such good hands, and the financial basis so firm, that none may fear to risk their hard-earned shillings. It seems to me, too, that by supporting and helping this work the wealthier classes may do so much good without laying themselves open to the charge of pauperising. It is a case of helping those who help themselves, and it in no way deprives a man of his own independence.—THE MISSUS.

APPLE THOMAS ANDREW KNIGHT.

SUCH is the name given by the raiser, Mr. C. Ross, gardener to Col. Archer Houlton, Welford Park, Newbury, to one of the most promising Apples that has been shown at the Drill Hall. It is from a cross between Peasgood's Nonesuch and Cox's Orange Pippin, and combines the characters of both these standard sorts. Generally speaking, it rather favours the latter, inasmuch as it has assumed its colour and retained its flavour; while it follows the former in size and in the formation of the crown of the fruit. The one shown in fig. 52 is rather below average size, but was chosen as a perfectly typical example in all other respects. The fruit is quite symmetrical, and slightly wider than it is high. The wide open eye, set in a very broad and shallow basin, has the segments almost absent; the tube is conical and the stamens median. The knobbed stalk varies considerably in length—that of the specimen shown being three-quarters of an inch—and is inserted (sometimes obliquely) in a comparatively shallow cavity which shows slight signs of grey russet. The flesh is very firm, juicy, sweet, of excellent flavour and delicate aroma. The ground colour is bright yellow, almost obscured on the side next the sun by brilliant crimson scarlet, with numerous splashes of livelier crimson and more or less frequent green spots. When the specimens were shown before the Fruit Committee of the Royal Horticultural Society there was a unanimous vote in favour of an award of merit. We have no particulars of the habit of the tree, but judging by its fruit we regard this new Apple as worthy of the long-famed name it bears.

SOME BEAUTIFUL TREES OF THE WORLD.

WHAT important features in a country are the nature and variety of its trees! In some lands, indeed, they are almost the uppermost impression which one carries away. Who can fail, for instance, after passing through British Columbia or parts of Norway to retain a vivid remembrance of their almost illimitable forests of Pines with their gigantic proportions of girth and enormous height? America, pregnant in records, outdistances any other country in the world I suppose with its big tree groves of Mariposa, though I was more myself astounded by the stupendous arboreal marvel in the Botanical Gardens outside Calcutta—viz, the colossal Baobab tree with its thousands of aerial roots, the whole covering an area of ground perfectly incredible. The celebrated Grizzly Giant of the Yosemite is, however, the thickest of the Sequoia tribe, and is a wonder in itself, being by measurement 94 feet round, and is probably 1500 years old. The other world renowned specimen of the Sequoia gigantea is the Wawona or Tunnel Tree so often depicted in connection with American

sights, and through which your entire carriage is drawn with space enough and to spare on either side.

It must be mentioned, however, that mighty as these Californian trees are in girth and altitude, they are far surpassed in the latter respect by some of the Australian Eucalyptus, there being one of these on record of a height attaining to 480 feet, thus topping by 155 feet the tallest of the Sequoias.

For beauty combined with variety I suppose the tropical growths of Ceylon are as pleasing to the eye as the trees of any other country. The Palm tribe here are in their greatest profusion, and mingling with the hundred and one other kinds of trees make the surroundings of marvellous beauty. I suppose the perfect lake at Kandy would be robbed of half its charm without its protecting fringe of these elegant growths. In Japan I was chiefly struck by the slender waving characteristics of the bluey-tinged Bamboo forests. In some parts, notably round about Kioto, the Bamboo attains the size of a really large tree. They are peculiarly graceful, and of a subtly indescribable attraction. In the temple gardens and parks the Cryptomeria is a stately and magnificent object. At Nara they were enormous, and the *coup d'œil* of the spotted deer grazing on the mossy slopes beneath these fine spreading trees was a particularly alluring one. In speaking of Japan, too, I must not mention of the lovely Camellia trees about the coast



FIG. 52.—APPLE THOMAS ANDREW KNIGHT.

district of Enoshima. In Nubia, and the desert oases of the Sahara, the tall and stately Date Palm reigns almost supreme, and affords a slight respite from the scorching heat of Africa's sun.

As regards India, the immense forests of the Himalayas, seen to such advantage on the way up to Darjeeling, are very impressive; as also, though of a totally different appearance, are the Eucalyptus groves on the Nilgiri Hills, round Coonoor and Ootacamund. These Blue Gum Trees, to use their common name, are of a most rapid growth, and attain a tremendous height, as before mentioned. The scent, though certainly very strong, is an extremely healthy one. Bombay itself is well supplied with fine timber, the renowned Mango trees being perhaps as frequent as the Baobab, while some of the suburbs, such as Bandra, are in the midst of myriads of Cocoa-nut Palms. Further south, at the extreme corner of India, I was much surprised and pleased at the size and appearance of the Tulip Trees, which at the time of my visit at Cape Tuticorin were in full flower, with both yellow and red blooms.

In Palestine the indigenous Olives have charms of their own—sombre, gnarled, and century worn though they for the most part appear, being in many parts the only representative of tree kind, though of course in beauty, if not in interest, they yield largely to the stately and superb Cedars of the Lebanon district.—J. A. CARNEGIE-CHEALES.

A NOVEL EDGING.—On a recent visit to Eaton Gardens, Chester, I noticed one of the broad walks in the vegetable quarters edged with the common English Oak, which to me was a novelty. It was, however, so distinct and effective that it appeared to be worthy of recommendation. Mr. Barnes informed me that it had been planted at least a dozen years, but it showed no appearance of being rough or untidy; in fact it was compact and uniform throughout, the average height not being more than 10 inches. At the time of my visit, which was in the early part of this month, it was well furnished with foliage, and the growth being young the leaves would adhere to the wood pretty well all winter. For ordinary garden walks it would not, of course, be suitable, but for walks sufficiently wide for the passage of a cart it appeared to be well suited.—GEORGE PAXTON.

SWEET PEAS.

SWEET Peas are now so extensive in variety, and so useful, that every possessor of a garden, whether he be a duke or a cottager, must grow a collection. Truly it is a flower for the enthusiastic amateur, for what is there in the whole range of summer flowers that gives such a return for an equal amount of labour? So popular have Sweet Peas become that almost every schedule of prizes, of even the smallest show, contains a class or classes for so many varieties. So numerous were they contributed at the late Shrewsbury Show that one large tent was almost occupied with them alone.

The culture of Sweet Peas is very simple. Deeply dug, or what is better, trenched ground, with plenty of manure as a foundation, and abundant supplies of liquid manure during the season of growth, are the salient points to be observed. Add to this ample space for the plants to grow in, and the daily removal of seed pods until early in September, and surprise should be expressed if success does not follow.

Now that varieties are so numerous it is well to grow none but the best, as the inferior sorts require as much care in cultivation. For the benefit of those who wish to keep an up-to-date collection by a yearly revision of their list, or those who are beginners, I have carefully prepared a selection of the best varieties for consideration in the season of 1900. One point in cultivation I omitted, that of early sowing. This is highly important, as the plants are thus enabled to secure a longer season of growth through getting them firmly established before hot and dry weather is experienced in June and July.

As indicating the number of Sweet Peas now cultivated, Messrs. W. Atlee, Burpee & Co., Philadelphia, catalogued this year no less than 145 varieties. In addition to this number Mr. H. Eckford has many novelties to offer of sterling merit. Mr. G. Foster, Brockhampton Nurseries, Havant, has introduced several varieties that will occupy a leading position in the near future. Altogether there are quite 200 more or less distinct varieties, and as they annually increase, the work of selection and eliminating inferior or too much alike varieties is becoming much more difficult. In time a special conference of experts will be required to classify the varieties and place the nomenclature of all on a firm basis.

The following seven varieties are to be sent out next season as novelties, and those who would desire to be in the front rank as exhibitors would do well to include them in their collection. Lord Kenyon, deep rose shaded with puce or purple, heavily veined with a deeper tint, an extremely fine variety. Duchess of Westminster, pink shaded bronzy salmon, a pleasing and effective novelty. Countess of Lathom, pale pink self, an improvement on Venur. Fascination, purple lilac standard, rich blue keel, a most striking and beautiful blending of colour. Calypso, standard, crimson flushed purple, wings mauve. Cream of Brockhampton is an improvement on Mrs. Eckford, in that it is more deeply coloured. Wideawake, dark crimson, standard faintly striped purple, wings heavily tinged purple, a bold, full sized bloom.

Sadie Burpee must now be classed as the finest white Sweet Pea in cultivation. The blooms are hooded in form, large, bold, and handsome in every way. Countess of Powis, glowing orange, suffused with light purple, with a satin polish, is novel in the extreme. Lovely, a pleasing shade of pink with delicate rose wings, is a grand flower and should be in every collection. Lady Mary Currie, a deep orange pink delicately shaded with rosy lilac, is a charming flower of much brilliancy. Queen Victoria is of a most difficult colour to describe. Soft yellow, subtly overlaid with faint purple, which imparts a desirable lustre. The blooms are exceptionally large, and it is one of the best.

Salopian is one of the finest of bright coloured Sweet Peas. It is deep crimson tinged with mulberry red, and suffused with rich orange scarlet. The blossoms are large and finely formed. Prince of Wales is a bright rose self of intense colour and fine bold form, frequently bearing three and sometimes four blooms on a stem. Duke of Westminster, a deep rose maroon, overlaid with bright shining violet, is quite distinct from any other variety, and is an acquisition. Stella Morse, of which the flowers when opening exhibit a suggestion of yellow, which with age becomes paler, and about the third day delicate shaded primrose, with an edging of pale pink or salmon. It is a hooded variety with three and four blooms on a stem. Mrs. Dugdale, bright rose, shaded primrose, pale pink keel, is a bold handsome flower. Othello is of colour almost unique, dark brown chocolate red with a satiny black shade, very free bloomer, and strong habit of growth.

Lady Griseld Hamilton in colour is a shining pale lavender, most difficult to accurately describe. It belongs to the giant flowering class. Black Knight is the best of the dark maroon type. The standards have a metallic lustre. Aurora I regard as an improvement on Mrs. J. Chamberlain, and may be considered the best of flaked varieties. The ground colour is white with heavy flakes and stripes of bright orange salmon. Maid of Honour is of the palest of lavender with a deep violet edging, a very pleasing and distinct variety. Mars

is bright fiery crimson which deepens with age. Hon. F. Bouverie has standards of coral pink with wings a shade lighter tint. It is a charming flower of grand shape and substance.

Gorgeous was sent out this year by the American firm, and well deserves its name, as its colour is most striking, rich orange salmon standards deepening in the veins; wings deeper in shade than the standard, keel pale lilac; a magnificent variety in every way. Fashion is of the same origin, and is a sport from Captivation. It is deep rose with purple flushed standards and purple red wings. Countess Cadogan is a bright shining violet overlaid with light sky blue, wings pure sky blue; a full size hooded flower. Colonel is usually three-flowered on stout stems; soft lilac overlaid with bright rose. Prince Edward of York is one of the largest flowered varieties we have. The standards, when fully expanded, are of a charming shade of scarlet with deep rose-coloured wings. Triumph is well named in point of size, as the blooms are exceptionally large. The standard is orange pink, wings white flushed purple.—E. MOLYNEUX.

LONDON GARDENS OVER FIFTY YEARS.

No. 13.

ONE of the memorable events of last spring was the very satisfactory transaction by which the time-honoured Apothecaries' Garden at Chelsea was secured for the public benefit thenceforth. It is a matter of rejoicing to botanists, gardeners, and also, I should think, to many in the medical profession, as this old garden has for a considerable time been under dangerous circumstances. Speculators have long had their eyes on this 'eligible plot,' so suitable for the erection of mansions which would command grand views of the Thames and of Surrey opposite. 'Tis but a small space, originally a little over three acres, the Embankment has added half an acre, yet it may have within its bounds much that will be of interest to after generations if rightly managed.

The board in whose care this garden is to be placed is of a composite nature, and necessarily there will be differences of opinion, but I hope this will check any development of fads. We would wish to see the greater part of the ground covered with glass, or witness a display of flower beds of the latest fashion. Changes must be made, no doubt, since we want a botanic garden up to date so far as the space permits, but I deprecate any undue interference with the present aspect of the garden. Let us keep while we can those features which remind us of the Georgian era.

Certainly Sir Hans Sloane, when he granted this part of his Chelsea manor to the Apothecaries Company, gave them land in a very suitable locality. For was not Chelsea long called the 'village of palaces?' Here, during the Middle Ages and after, lived various kings or nobles of high rank. In their old-style gardens were to be seen curious, beautiful, or rare medicinal plants, brought home by travellers from eastern lands as gifts. But when we first read of this plot it was just a bit of meadow, and in 1673 the Company took it to build thereon a house for their state barge. They had a term of years, and then it occurred to the Court that the place would do well for a physic garden, so they removed to it a small collection of plants from Westminster. John Wattle, who had interested himself in the commencement of it, became manager in 1680, and shortly after he appears, from Evelyn's account, to have made one of the earliest attempts to supply artificial heat to plants during the winter. The garden slowly progressed, brought to it visitors from distant countries, and then Sloane, in 1722, generously handed over the land to the Company for £5 yearly, and fifty new plants reared in the garden. The delivery of the plants went on till 1774, by which date 2550 species had been presented. This action of his was all the more kind because the apothecaries had abused him. With some of the physicians he had taken part in starting provident dispensaries for the poor, a scheme apothecaries thought prejudicial to them.

This second half of the century has not brought many visitors to the Chelsea Botanic Gardens, but it has been kept in fairly good order, the plants grown being chiefly those of medical value. The old greenhouse, more than once figured in descriptive books of Chelsea, was removed about forty-five years since, with some smaller structures, which were venerable but dangerous. To those passing along the Thames, the Cedars near the river bank were familiar objects for a long period. In 1750 the four trees were flourishing and of good size; between 1770 and 1780 two decayed, and had to be removed; the third succumbed in 1878; the last is now dead, I am informed. A splendid Oriental Plane, one of the finest in London, was killed by the formation of the Embankment. The ancient Pomegranate has gone, and the Magnolia grandiflora, that was one of the earliest specimens planted in London. But I believe there yet remains the *Styrax officinale* on the wall by Swan Walk, the Maiden-hair Tree, the Pistachia, with other notable trees I saw a few years since. Amongst the many illustrious men who have been associated

with these gardens prominence may be given to Curtis, Lindley, Miller, Moore, and Petiver.

What once were the charms of the locality in which the Apothecaries' Garden is situate, we can imagine from the old name of Paradise Row, given to the road beside its walls; Chelsea folks now call it Queen's Road. Here it was that John Fraser, an enterprising young Scotchman, started a hosier's shop, but his frequent visits to the gardens close by, and his friendship with Forsyth, led him to a new pursuit. He became a nurseryman and tourist, his place near Sloane Square standing high on the list of London nurseries early in this century. The greater part of his garden is said to be absorbed in the grounds of the Royal Military Asylum. A reminiscence of what Paradise Row was is found in half a dozen cottages still left, having fruit gardens and Vines climbing above. Chelsea, indeed, has been famous for its Vines as well as its Wistarias. Thus the little cottage attached to the Moravian Burying Ground used to be enveloped in Vines, and Chelsea outdoor Grapes are still attainable.

Of Mulberries, too, Chelsea has ancient examples, though I doubt if any can be dated back to the time of the Tudors, but of more than one it is said that Queen Bess sat beneath, and regaled herself on the fruit. An old inhabitant tells me that he remembers as a lad helping to watch the Apples in an orchard between Paradise Row and the King's Road, at the back, I suppose, of Little's nursery ground, formerly extensive. Nor was the air of Chelsea wanting in fragrant odours; till recently there was in Shawfield Street the premises of Gosnell & Co., successors to Messrs. Taylor, who had distilleries there a century since, growing Roses, Lavender, Anise, and other herbs on the land extending towards the Thames, and I am told the culture of these plants continued till 1855.

Then, again, the old Clockhouse had its tale to tell, for attached to it was a herb garden of the sort once common. It received the name from a curious wooden clock in the front. This quaint building was removed about 1862; it stood where formerly was the stable yard gate of Beaufort House. The ground attached had been part of the original garden, and is said to have been edged round with Figs and Vines, some of the latter on trellises; also several large Pomgranates, which flowered yearly, were conspicuous. A large Gleditschia and a Calycanthus were amongst the curiosities, but the greater portion of the space was devoted to Mints and various herbs, for the distilled waters of which there was a ready sale.

The formation of Chelsea Embankment in 1862-3, with its walks, borders, and shrubberies, was a great improvement, though it had to spoil the picturesqueness of the river side. Then another change was the cutting a new line of road to Chelsea Bridge, across a remnant of the gardens of Ranelagh. After the famed Rotunda and the mansion were pulled down a good deal of the land remained many years in a neglected state. Often have I wandered over the ground between Wilderness Row, a reminder of the old "wilderness" of Ranelagh, and the Commercial Road—anything but "commercial"—wondering what would become of it. They might have let the poor folks of Pimlico near grow some Beans, Cabbages, or Potatoes upon it, but they did not. Chelsea Barracks occupy a part of it, and row roads or streets; a part, however, has been kept open and added to the Hospital gardens. This has increased the extent of these to 9 acres, the southern half only being open to the public. Till 1855 the Hospital gardens showed a remnant of the Dutch style, the formal walks and stiffly arranged trees or shrubs, with little canals, up which the Thames water flowed sluggishly.

The nursery long occupied by Mr. Tuck, in Sloane Street, is happily secured from the builder, and now called Cadogan Place Gardens. Its six acres have their history, some old books give us Sloane Square as its name, which has led to a few funny mistakes, laid out at first by Salisbury and Curtis, in the manner of a botanic garden, planned according to the Linnean divisions of plants, they sunk it below the level of the surrounding land, because Repton had proposed to represent a winding valley, ending in a central pond, but this was not done. When Tate took it in 1820 he re-arranged the ground, and his successor followed his plans, allowing the public access to the larger half of the nursery, which was given up about 1885; since, the place has still been linked with horticulture as the scene of Messrs. Waterers' Rhododendron show. East of Sloane Street, occupying a large space between the King's Road and Brompton, now a network of streets, were the gardens of Mr. Cattell, who had a great repute for greenhouse and stove plants, also for hardy perennials. He grew Pines successfully and early Strawberries for the market, but after being much diminished, his ground was finally cleared in 1877.

When this Journal came into existence, the Pavilion of Hans Place, Chelsea, remained a private residence, its gardens were one of the memorials of "Cafability" Brown, who planned the avenue, shrubberies, and formed a small lake for the owner, Mr. Holland, in 1780. In one part of the grounds was a curious ruin, representing an ancient priory, formed from the relics of Cardinal Wolsey's palace at Esher.

About 1865 it became the Princes' Club, and was pulled down in 1879 to make way for squares and terraces.

The King's Road as it is now does not recall the days when florists were scattered from Sloane Square to the modern Vestry Hall. Before my time the renowned nurseries of Davey and Colville had vanished; the green "Butterfly Alley," that once separated them, had become a street. Fraser's and Moore's had also gone. I can just remember Rolle's, next to Argyll House, said to have been a "shooting box" of that family, though what they found in Chelsea to shoot I do not know. The nursery of Little existed till recently, but ended as a private garden; it has since been built over. Much did the lovers of fine trees and shrubs regret the purchase also of a portion of Rossetti's great garden for a Board School; this, and other back gardens of Cheyne Walk with ancient trees, had been in the circuit of the grounds of the old palace. At the back of Cheyne House was the nursery of Shailer, famous for his Moss Roses; and the garden of that house has some fine trees of good age, well preserved by Mr. Phené, the owner, who has a large collection of Chelsea curiosities. The famous gardens of west Chelsea will be dealt with in a subsequent issue.—J. R. S. C.

GRAPES AT SHREWSBURY.

MR. MOLYNEUX, page 224, has presented us with a highly interesting and instructive audit of the varieties of Grapes shown at the above Show, and he has the warmest thanks of those interested for the great trouble he has taken. Incidentally, he mentions what must be considered an error, which he and so many others have fallen into.

Mr. M. says, "In the great champion class for twelve bunches the six exhibitors staged eighteen varieties, if Bowood Muscat and Muscat of Alexandria can be considered as being distinct. In my opinion they are not, and should not be admitted as such, nor were they admissible according to the schedule." Now, as regards the last sentence, "nor were they admissible according to the schedule," I, as one of the Judges, beg to differ with him.

The wording of the schedule says, "For the purpose of this exhibition Bowood Muscat, Charlesworth Muscat, Tynningham Muscat, and Canon Hall Muscat cannot be shown as distinct varieties; in the same way Gros Maroc and Cooper's Black are considered synonymous for this competition." The only possible meaning of that statement is that the four white varieties named above could not be shown together as distinct varieties, neither could the two black varieties named. If we admit any other not named variety to be added to the above, where do we stop? Why not admit twenty varieties? It is very clear there is something left out—i.e., if you wish to identify either of the above or all of the above named Grapes with some other variety not mentioned amongst the synonymous varieties.

Fortunately the R.H.S. code of rules for schedule makers and Judges, page 13, clause 52, furnishes us with the correct explanation in clear words, as follows: "For exhibition purposes Bowood Muscat, Charlesworth Muscat, and Tynningham Muscat are to be regarded as synonymous with Muscat of Alexandria, and cannot be shown as distinct varieties, &c." Now here we have the distinction and the difference caused by the (probably accidental) omission of those four words, but which omission destroyed to all intents and purposes the very gist of the matter the schedule compilers wished to convey and would have conveyed had the words "with Muscat of Alexandria" been inserted. The Judges in this class had a very keen appreciation of the intention of the clause in the schedule, and also were aware of the omission named, but as matters stood they felt they could not exercise their own discretion to the extent of disqualifying two exhibitors who staged either one of the four named white varieties in conjunction with Muscat of Alexandria.

Doubtless these two exhibitors had read the clause to mean that they could stage either one (but not more) of the four varieties named; in fact they had so staged and labelled correctly, which it is conjectured they would not have done upon any other interpretation. With this one exception the Shrewsbury schedule is clear and explicit, so much so that friction with exhibitors is almost unknown (not a single protest this year, I hear).

It is hoped that the compiler of this clause will "own up," in order to settle this dispute, and give his candid opinion upon the wording and the meaning, also whether it accords with the solicitor's opinion who had to be consulted, but who, nevertheless, was a person well versed in horticultural matters, and whose decision was acted upon. Doubtless we shall all agree that this bracketing together as synonymous, or "too much alike," varieties of Grapes is absolutely necessary for exhibition purposes, but all synonymous varieties should be distinctly specified.

I am quite sure Mr. Molyneux is too fair an antagonist to maintain that under the circumstances here set forth anything other than justice was done, or that a vexatious disqualification should have been exercised. The question is, would Mr. Molyneux, under the above

circumstances, have acted otherwise? also, does he still hold the opinion "nor were they admissible according to the schedule?"—*W. CRUMP, Madresfield Court.*

[Though the majority of exhibitors interpreted the conditions in the same way that Mr. Molyneux did, we suspect Mr. Crump is right in his surmise that "something" was "left out." Had the familiar name "Muscat of Alexandria" been placed before "Bowood Muscat" in the second line of the third paragraph of the above communication there would have been less occasion, or no occasion, for obtaining a "solicitor's opinion," and so far as we know the awards of the Judges and their legal adviser gave complete satisfaction.]

EXPANSION OF THE HOTHOUSE INDUSTRY.

IN the last of the series of remarkable and exhaustive articles by Mr. W. E. Bear on "Flower and Fruit Farming in England," the above subject is discussed in the *Journal of the Royal Agricultural Society of England* (page 667, part ii., vol. x.). Mr. Bear has been from place to place, seeing for himself what was to be seen, also gathering facts as he went along. As it would be useless attempting a digest of the result of his investigations, and as the subject is of considerable interest and importance, we take a few paragraphs from his report. He says:—

"No other industry connected with land has shown such great expansion in this country during the last thirty years, and especially during the last twenty, as the cultivation of fruit and flowers under glass for market. Thirty years ago only one nurseryman in Cheshunt, Herts, had a hothouse, and now there are at least 125 acres covered with glass in that parish, not including outside borders or roadways; while in neighbouring parishes also there has been a similar increase. Four brothers in the district have at least 90 acres covered with glass, and it is only seventeen years since they started. A little over thirty years ago there was only one glass house in Ponder's End, near Cheshunt, and the increase is said by one nurseryman to be a thousandfold in and near that parish. Similarly at Enfield, Tottenham, and other places in the neighbourhood there are numerous glass house nurseries, nearly all of which have been established within thirty years, and the great majority within twenty. Even in Edmonton, where the industry appears to have started as soon as it was considerably developed anywhere, it is said to have increased tenfold within the period under notice. In Finchley, where one nurseryman has 19½ acres covered, he started only twenty-one years ago, and there was no glass worth mentioning in his neighbourhood then, whereas there is a great expanse besides his own now. Similarly in Whetstone (where the only nursery has grown from a small to a large one), the Thames valley, Mitcham, and other districts around London, the hothouse industry has expanded from an insignificant undertaking to a vast business.

"Turning to Worthing, in Sussex, it appears that less than one acre was covered with glass twenty-four years ago, and now in that district there are at least 50 acres covered. In Swanley, Erith, Belvedere, Bexley Heath, and other parts of Kent, again, the expansion has been remarkable; and the great majority of the more scattered glass house nurseries of the provinces generally have been either started or greatly expanded within twenty years. From the evidence collected it seems safe to assert that there were not 100 acres in all England covered with commercial hothouses thirty years ago; whereas now I estimate the total at fully 1100 acres.

"There are no data for an estimate of the proportions of hothouse space devoted to fruit, flowers, and vegetables respectively. But, as an immense space is mainly used for Grapes, and vegetables are not at all largely grown under glass in this country, if Cucumbers as well as Tomatoes be classed as fruit, as both are botanically, there is no doubt that a greatly preponderating proportion is devoted to fruit as their chief object, though flowers are forced in a large number of fruit houses during the winter and early spring, as well as in many devoted entirely to them.

"If, from the 1100 acres of land covered with glass, 350 acres be deducted for flowers, 750 acres remain for fruit and Cucumbers. Bearing in mind the fact that very large quantities of flowers are raised during the winter and early spring in fruit houses, I think that 350 acres are amply sufficient to allow for flowers alone. Of the 750 acres left, 350 acres may be allotted to Grapes, 250 acres to Tomatoes, 110 acres to Cucumbers, and 50 acres to stone fruit, Strawberries, and other produce. It must be borne in mind, however, that the areas allowed to these products overlap each other, as Tomatoes are grown in both Grape and Cucumber houses to a large extent; also after Strawberries.

"Supposing that Grapes are grown on 350 acres, let us see what a reasonable estimate of yield per acre will make the total amount to. One grower states that he has actually produced 2 tons of Grapes in a house 160 feet by 28 feet, or at the rate of 19 tons

8 cwt. 104 lbs. per acre. This was the greatest crop he ever grew, and his usual production in the same house is from 1½ to 1¾ tons, equivalent to from 12 tons 3 cwt. to nearly 14 tons 11½ cwt. per acre. As this vinery is commonly crowded with flowers, to the detriment of the Vines, these ordinary quantities are probably exceeded by many growers, and 14 tons per acre would appear to be no more than an average crop for a vinery in full bearing. Another grower last year produced on Vines which reached only about halfway up the roof 23 cwt. of Grapes in a house 160 feet by 21 feet, equivalent to 14 tons 18 cwt. per acre, a great crop for young Vines. A very extensive grower obtained of *Gros Colmans* 7800 lbs. from houses measuring 526 feet by 21 feet, equivalent to 13 tons 14 cwt. 71 lbs. per acre. A good crop of *Alcantes*, in a house 168 feet by 22 feet, weighed 2900 lbs., or at the rate of 15½ tons per acre. A small grower produced last season 670 lbs. of *Gros Colmans* in a house 50 feet by 16½ feet, or at the rate of 15 tons 15 cwt. 86 lbs. per acre. Lastly may be mentioned the production of 7 tons in a house covering a little less than one-third of an acre on one occasion, a phenomenal crop equivalent to over 21 tons per acre. Last season, in the same house, 5 tons, or 15½ tons per acre, were expected. All these weights are those of either the *Gros Colman* or the *Alcantes* variety.

"Judging from such statements of actual production as are given above, corroborated by less precise evidence from growers, I put 14 tons per acre as an average yield for Vines in full bearing. Then, making a liberal allowance for the proportion of young and failing Vines, I take 12 tons per acre as the average production of the estimated area of 350 acres under Vines, making a total of 4200 tons.

"In houses devoted entirely to Tomatoes, two crops, and occasionally three, are grown in a year; and, as already stated, they are also produced extensively in vineries and Cucumber houses. It appears a moderate allowance, therefore, to assume that one crop in a year is grown on at least 500 acres. Estimates of the yield of Tomatoes vary greatly. One grower has obtained, in a house 160 feet by 28 feet, 3 tons as a fair crop and 4 tons as a great crop, equivalent to from 29 to nearly 39 tons per acre. These quantities may appear large; but an easy calculation will show that they are not impossible. There are 43,560 square feet in an acre, and deducting one-seventh for pathways, the area to be devoted to plants would be 37,337 square feet. Now, 3 lbs. per plant would be a poor crop, and 6 lbs. a great one, as the plants are usually grown in large houses—that is, to produce only four trusses of fruit each. It must be explained that when Tomatoes are grown in pots, or otherwise when a second crop is to be produced in the same season in the borders of a house, it is usual to stop the plants when they have set four trusses of fruit. In such cases 3 lbs. per plant would be a poor first crop, and 5 lbs. a good one. But when only one crop in a season is grown, the plants being allowed to run up to the roof of the house, 6 lbs. per plant, or even more as a great crop, may be produced. Plants are often set in hothouses 1½ foot apart each way, and at this distance there would be 16,593 plants to the acre. In most cases in wide houses, however, there are short paths at intervals at right angles to the main path, to enable workmen to get about among the plants, and to allow air to circulate freely among them. Frequently the plants are set 2 feet by 1½ foot apart, in which case there are 12,446 plants to the acre. I propose, then, to take the latter number in estimating the average yield. At 3 lbs. per plant the produce per acre would be a little over 16½ tons; at 4 lbs. per plant, about 22½ tons; at 5 lbs. per plant, 27½ tons; and at 6 lbs. per plant over 33 tons.

"Mr. W. Neild, who has charge of the hothouses at the Agricultural and Horticultural School, Holmes Chapel, has favoured me with details of the produce of two small houses, each 40 feet by 12 feet. Only two rows of plants were grown in each border, or four rows in each house, the plants being 1 foot apart in the rows. The plants, however, were trained up wires in single stems to the apex of each roof, about 8 feet. The number of plants in the two houses was only 232, and yet they yielded 1700 lbs. of fruit, or 7 lbs. 5½ ozs. per plant, or at the rate of nearly 34½ tons per acre. In this case the apparent loss of space was fully made good by the height to which each plant could be trained, owing to there being only two rows in each border. Details of a yield much greater than this, on land fresh to Tomatoes, were given to me by a large grower; but it was quite phenomenal.

"With such examples as are given above in view, an estimate of 20 tons per acre as an average crop of Tomatoes must be considered moderate, and yet this yield on 500 acres would make a total of 10,000 tons as the annual crop grown under glass in England and Wales, no account being taken of open air produce.

"Reduced to pounds, which are more suitable denominations than tons for such products as Grapes and Tomatoes, my estimates, which I believe to be well within the mark, are 9,408,000 lbs. of Grapes, and 22,400,000 lbs. of Tomatoes. The quantities of Tomatoes is a subject for astonishment when the shortness of the period during which they have been grown commercially in this country is

considered. In 'Thompson's Gardener's Assistant,' published in 1859, it was stated that 'the Tomato is very rarely forced in this country.'

"The total of Cucumbers I cannot venture to estimate, as the yield varies extremely, and such information as has been supplied by growers is not sufficiently definite. Similarly there are no data for estimates of Peaches, Nectarines, Strawberries, Figs, or other kinds of hothouse produce not named above."

After describing the establishments of many growers of Grapes, Tomatoes, Cucumbers, and flowers, Mr. Bear proceeds to notice the "forced Strawberry industry," to which reference will be made in a future issue.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—SEPTEMBER 26TH.

THE meeting on Tuesday was a bright and interesting one, the flowers and foliage plants being particularly interesting and meritorious. Mr. Howe's group was most effective, and added greatly to the beauty of the exhibition. Mr. Beckett's collection of vegetables was again excellent.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with the Rev. W. Wilks and Messrs. J. Cheal, A. E. Barron, W. Poupert, A. Pearson, A. Dean, S. Mortimer, W. Bates, G. Wythes, G. Norman, J. Willard, R. Fife, W. Iggulden, and G. Reynolds.

Messrs. R. Pearson & Sons, Chilwell, staged a dish of white Grapes said to be a cross between Bowood Muscat and Gros Colman. Mr. W. Bewick, Walton-on-Thames, sent a basket of Melons, called Salmon Queen; the fruits were large, clean, and well finished. Mr. Jas. Day, gardener to the Earl of Galloway, Garlieston, sent thirty-six dishes of Apples. The majority were well coloured, but hardly as large as they are seen in the south. There were good dishes of Lady Sudeley, Worcester Pearmain, Cellini, The Queen, Peasegood's Nonesuch, Lodington, and Yorkshire Beauty (silver Knightian medal). Messrs. D. and W. Buchanan, Kippin, N.B., showed Grape Diamond Jubilee, but it was passed.

Mr. C. Beckett, gardener to Lord Aldenham, Elstree, staged a collection of vegetables in forty-seven varieties. The produce exhibited on this occasion was quite equal to the collection arranged at the last meeting. The mounds of each variety were just sufficient for the purpose, and there was no suspicion of making quantity stand for quality. It would be out of the question to enumerate all the dishes staged, but it will be well to point out the strongest points. Prizetaker White Celery was large, solid, and well blanched; Celeriac was represented by well-shaped roots; dishes of Windsor Castle and Satisfaction Potatoes were excellent; Maltese Parsnips were clean and well developed; Atlas Craig Onions were large and well ripened; the dishes of Polegate Tomatoes were medium sized and beautifully coloured, the Cucumber Beckett's Ideal was again represented by beautiful specimens; the dish of Holborn Exhibition Sprouts were hard and a good colour. Peas were represented by a fine dish of Autocrat, and Runner Beans Best of All by examples that must have been at least a foot long. Scarlet Model Carrots were good, as was also a dish of Mushrooms, and Holborn Model Lett.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); and Messrs. C. T. Drury, H. B. May, R. Dean, W. Howe, C. J. Salter, J. Jennings, C. E. Pearson, J. W. Barr, T. W. Sanders, E. H. Jenkins, R. T. Cook, Harry Turner, G. Paul, H. M. Arderne (Cape Town), H. Selie Leonard, and D. B. Crane.

Mr. Jas. Stredwick, St. Leonards, staged a couple of boxes of Cactus Dahlias, which included excellent examples of Uncle Tom, Countess of Lonsdale, Magnificent, Autumn Queen, Mayor Tuppenny, Mrs. Sanders, Augustus Hare, Maurice S. Walsh, and Major Weston. The flowers were bright and well developed for the season (bronze Banksian medal). A fine display of Cactus and Show varieties were staged by Mr. S. Mortimer, Rowledge, Farnham, the latter being especially fine, and included blooms of John Hickling, Victor, Sunbeam, Wm. Powell, Shirley Hibberd, Willie Garratt, Mrs. W. Slack, Mrs. Glodstone, and John Walker. The most striking Cactus varieties were Eastern Queen, Island Queen, Starfish, Viscountess Sherbooke, Mrs. J. Goddard, Countess of Lonsdale, and Chas. Woodbridge (silver Flora medal).

The Tottenham firm of Messrs. T. S. Ware, Ltd., staged a huge bank of Cactus, Pompon, and single Dahlias, in company with Asters and early flowering Chrysanthemums. The Pompon Dahlias were effective; some of the best were Louie Matthea, Fairy Tales, Juliette, Gladys Valentine, Marr, and Little Sweetheart. The Cactus were represented by Alfred Vasey, Magnificent, Night, Laverstock Beauty, Britannia, Sylvia, and E. O. Grenning. The Grasses and Bamboos employed assisted in lightening the exhibit (silver Banksian medal). Ferns were represented by a group of Asplenium nidus in various forms arranged by Messrs. J. Hill & Son, Lower Edmonton. The plants included specimens in all stages. The exhibit was tastefully arranged with Cocos Weddelliana and various Adiantums (silver Flora medal).

A capital display of hardy flowers came from Messrs. Barr & Sons, Covent Garden, chief of which were a collection of Michaelmas Daisies and a bright collection of Tritomas. The Lilium speciosum Melpomene, and speciosum Krætzneri, with bunches of early flowering Chrysanthemums, Anemone japonica, and Phloxes formed the best features. Mr. H. B.

May, Upper Edmonton, filed a table the length of the Hall with a collection of Crotons of the decorative type; the plants were well grown and beautifully coloured. The most attractive varieties were Earl Derby, ruberrimus (a beautiful variety), formosus, Thomsoni, Warreni, Countess, and Sunbeam (silver-gilt Banksian medal). Mr. A. H. Rickwood, gardener to the Dowager Lady Freake, Twickenham, staged a collection of Cannas. The most noteworthy were Burbank, Baron Hirsch, Duchess of York, President Carnot, and Antoine Barton.

A pretty exhibit of Statice varieties were sent from Messrs. H. Low and Co., Enfield. The plants were dwarf and well flowered, and appeared to be excellent decorative stock. The finest exhibit in the Hall was a large group of foliage plants, arranged by Mr. Howe, gardener to Sir Henry Tate, Streatham Common. The chief features were the splendid plants of Bamboos, Asparagus Sprengeri, Crotons, and Dracenas in variety, well coloured and beautifully grown. The group was edged with Ferns in variety (silver-gilt Banksian medal). Messrs. Jas. Veitch and Sons, Ltd., staged baskets of Hydrangea hortensis Mariæi with well coloured heads, the pretty foliage plant Nandina domestica, and Caryopteris mastacanthus. Messrs. Sander & Co., St. Albans, sent a group of Dracena Sanderiana, Acalypha Sanderiana, a few Palms, and three well flowered plants of Dendrobium formosum giganteum. Mr. W. Wells, Earlswood, Surrey, staged early flowering Chrysanthemums. The best varieties were Victor Mew, Crimson Marie Masse, Market White, Madame Liger Ligneau, Sam Barlow, and Jules Mary.

ORCHID COMMITTEE.—Present: Harry J. Veitch, Esq. (in the chair); and Messrs. J. O'Brien, de B. Crawshaw, S. Courtauld, J. Colman, W. Cobb, J. G. Fowler, E. Hull, F. J. Thorne, W. H. Young, H. J. Chapman, J. T. Gabriel, H. Ballantine, H. M. Pollett, and J. Jaques.

Messrs. J. Veitch & Sons, Ltd., Chelsea, occupied their customary position with an effective group of Orchids rising from a groundwork of Ferns. The handsomely flowered plants comprised Brassavola nodosa, Cypripedium Charles Canham, Alice, ceananthum superbum, T. B. Haywood, Spicerianum, Charlesworthi, superbiana, and Milo; Dendrobiums formosum, superbiana, and Phalaenopsis; Angreum articulatum; Cattleyas granulosa Schofieldiana, Loddigesi, bicolor, Patrocinii, labiata, and Enid; Lælio-Cattleyas callistoglossa, c. ignescens and Nysa, with Odontoglossum grande and others (silver Flora medal). C. H. Feiling, Esq., Southgate, exhibited a group of Orchids in which Dendrobium Phalaenopsis largely predominated (silver Banksian medal).

A small group of Orchids was contributed by Messrs. H. Low & Co., Bush Hill Park, Enfield. The well-grown plants were interspersed with Asparagus, the delicate green of which threw out the flowers of the Orchids with charming effect. The latter included Oncidium Marshallianum, Cattleya Harrisoni, C. minucis, Odontoglossum grande, and others (silver Banksian medal). Small exhibits of Orchids came from Messrs. J. Thorne, Sunningdale; H. J. Chapman, Camberwell; C. J. Salter, Reigate; W. Cobb, Tunbridge Wells; H. Little, Twickenham; Cooke, Guildford; and one or two others.

CERTIFICATES AND AWARDS OF MERIT.

Caryopteris mastacanthus (Barr & Sons and J. Veitch & Sons).—A fairly well-known plant. The flowers are blue, the upper surface of the leaves dark green and the under surface silver (award of merit).

Cattleya No Name (T. W. Thornton).—A hybrid from C. Mendeli and C. granulosa Schofieldiana. The narrow stout sepals are pale green with rose venations; the broader petals are rose white with purple veins. The broad flat lip is purple crimson (award of merit).

Dahlia Augustus Hare (J. Stredwick).—A handsome Cactus variety, described at the last meeting of the Committee.

Dahlia Madame Medora Henson (T. S. Ware).—A Cactus of the true type; a crimson scarlet with purple tips (award of merit).

Odontoglossum crispum Basano (W. Cobb).—A fine variety. The narrow petals are white, as are the sepals, the upper having a purple central stripe. The lip has an immense blotch of chocolate (award of merit).

Pear Triomphe de Vienne (G. Woodward).—A comparatively well-known Pear. It is of large size, irregular in outline, but handsome. The colour is yellow, with a considerable amount of russet. The eye is large and open, and the stalk long and straight (award of merit).

MR. LUCKHURST'S PAPER ON INSTRUCTIONAL FRUIT STATIONS.

This, in Mr. Luckhurst's absence, was read by the Rev. W. Wilks. It describes the origin of these stations in Derbyshire, arising out of the lectures on fruit culture which were given in the various villages of the county, at which, so far as could be, budding, grafting, and pruning were illustrated, but after all so very imperfectly. These stations were about half an acre each in area, and were planted almost exclusively with fruits. The first was formed at Duffield, near Derby, in 1893, then followed others, at Matlock in 1895, and one at Kingston, in the same county, in 1897, which was utilised by several adjoining counties.

At these various stations, which were so far as practicable under Mr. Luckhurst's personal supervision, he doing all the pruning himself, demonstrations were given, and lectures and addresses also, not only to *bona fide* students, but also to villagers or residents of all grades, the result being of a most beneficial nature, on the fruit culture of the county. Soils, drainage, manuring, planting, selection of varieties, staking, and all other essentials in fruit culture were taught. Good breadths of bush fruits and Strawberries were grown, and the Parsley-leaved Bramble was particularly productive and profitable. In one station, that of Kingston, the entire area was enclosed with a somewhat dense Plum hedge, which forms a capital shelter. A brief discussion followed, as also did a cordial vote of thanks to Mr. Luckhurst.



RECENT WEATHER IN LONDON.—The weather in London continues changeable with heavy winds and showers. On the whole it is decidedly cooler, though one or two days have been comparatively warm. There was rain on Sunday and Monday evenings, with a little on Tuesday. A little rain fell on Wednesday morning.

GARDENING APPOINTMENTS.—Mr. E. Semper, who served with much credit as gardener for ten years at Scawby Hall, Lincolnshire, has taken charge of the gardens of Sir William Eden, Bart., Windlestone Hall, Ferry Hill, Durham. Gardening is highly cherished at Windlestone, and Mr. Semper is one of those able men who like to do all things well. Mr. Cunningham is his successor at Scawby. Mr. Burton Gaiger, late foreman at Lord Burton's gardens at Rangemore, has been appointed head gardener to Lady Marcus Beresford, Bishopsgate, Englefield Green, near Windsor. Mr. John Clarke, late steward and gardener to the Dowager Lady Carew, Woodstown, Waterford, has been appointed in a similar capacity to F. N. Edgeworth, Esq., Kilshrewly, Edgeworthstown, co. Longford. Mr. A. Pickard, of Impney Gardens, Droitwich, has been appointed gardener to E. Chaplin, Esq., The Firs, Rugby.

COMPOST FOR FLOWER BEDS.—There seems to be an idea prevalent among some gardeners that flower beds may go on for ever without anything in the way of new compost or manure being added, but these of course require a little judicious manuring the same as any other part of the garden. Good farmyard manure has to be made the most of on many estates, there being far too little of it for field and meadow, and the small amount allotted to the garden is not as sufficient by any means. Anything that will eke out this supply and make more bulk to the compost heap should be carefully preserved. As I am situated horse labour is fairly plentiful after harvest, and I usually tell off a couple of men to clear out the heads at least of ponds and ditches, where there is usually a deposit of silt and leaf mould; very useful material for top-dressing Rhododendrons and other flowering shrubs, or even fruit trees. Edge clippings of turf, old potting-bench refuse, and anything not of a weedy nature is also thrown into a heap, this being mixed with the material afore mentioned, and the ash from garden smother, with of course a little farmyard muck, if it can be spared. No practical gardener need be told how useful such a heap of compost is.—R.

SAD DEATH OF A GARDENER.—On Tuesday, the 19th inst., as Mr. William Pickaley, gardener to Robert Miller, Esq., Great Baddow, Chelmsford, was driving between that place and another estate recently acquired by Mr. Miller, the horse was frightened by a motor car, and his gardener was thrown with such violence from the conveyance that several bones were fractured, and he expired on Saturday last. The deceased, whom we knew well, may be said to have been a born gardener. The early years of his manhood were spent as an agricultural engine driver, but his heart was in his garden, which he cultivated assiduously and won many prizes with its produce. By seeking for opportunities he found regular employment in gardens, and eventually served with much credit in those of the late Dr. Hogg and Sir Francis W. Truscott. About nine years ago he became gardener at The Grove, Baddow, where he was esteemed as a trusted and valued servant. The deceased was a man of great natural ability and sound judgment, as well as of untiring industry, and hence his success with practically everything he took in hand. Among other things he could grow the Duke of Buccleuch Grape as easily as the Black Hamburgh or any others in a house of several varieties, but the Duke with its fine crops of noble fruit was the most prized of them all. Mr. Pickaley was arranging for removal to Mr. Miller's new estate with the view of settling there during the week of the fatal occurrence. It is a trite saying that good servants make good masters, and *vice versa*, and certainly we have not known of an instance of more devoted service impelled by attachment to a family on the one hand, and of greater consideration and kindness on the other, than existed between William Pickaley and his appreciative employers. The deceased was approaching sixty years of age, and much sympathy is manifested with the widow in her great bereavement. Mr. Miller writes:—"We are grief-stricken—I have lost a friend. My wife and I have enjoyed Pickaley's regard and confidence, and to lose him in such a way is a blow we feel very deeply."

TOPPING HERBACEOUS PLANTS.—When being recently taken over the extensive grounds at Rowhams, Southampton, Mr. B. Ladhams has occupied chiefly as a hardy plant nursery, I was much taken with a few stems of the bright yellow *Helenium autumnale grandiflora* finely flowering. The bulk of the stems were carrying heads of bloom some 3 feet above ground, plants rather stiff or mop headed. But two or three had been in some way pinched or stopped when 18 inches in height, and these, breaking below, had sent up some five and six stems 15 inches long, each one carrying fine heads of bloom. Nothing more bright for the garden or better to cut with long stems for vase decoration, could hardly be found anywhere. It is very well known that *Chrysanthemum uliginosum* treated in this way does the same thing, and so doubtless will many other tall stemmed plants, thus causing them to flower better and rather later.

DRY WEATHER FLOWERS.—Severely tested by great drought at Rowhams, I found amongst the best bloomers under the adverse conditions to be the old Californian *Zauschneria*, which is really a beautiful plant. Also very charming green and vigorous was *Silene Schaffa*, flowers of a pretty rosy red, a capital border plant for the front row. Very pretty too and dwarf was *Erodium macradaceum*, one of the *Geraniaceae*, flowers white, with top petals striped mauve. The foliage is Fern like, and very graceful. Besides the *Helenium* mentioned above, and *Helianthus* Miss Mellish, some of the *Rudbeckias* were flowering finely. *Newmanni* is one of the very best autumn flowering perennials, and *R. purpurea*, flowering well, *Oenothera speciosa*, flowers blush white, was charming.—A. D.

LARGE ONIONS FORTY YEARS AGO.—Bulbs 2 or 3 lbs. in weight are grand boiled and grand roasted; but they are like the goose before the hungry man—too much for one and not enough for two. The mode of procedure in building up those large Onions fairly described by Mr. Luckhurst in last week's Journal is not a new method. I cannot say how old it is, but I saw it practised nearly forty years ago by that fine old gardener, the late Mr. Andrew Stewart, at Chatsworth. During my first season there, in the summer of 1860, he grew splendid Onions from seed sown in January. I find in my note book that the thermometer never reached 80° in the shade, and we had only about eight fine days between May and September; rainfall nearly 40 inches, followed by a severe frost in December, 45° being registered on Christmas Eve. I was on duty on Christmas morning, and therefore remember it.—JOHN CAMPBELL, Mickleover Manor Gardens, Derby.

SHIRLEY GARDENERS' ASSOCIATION.—The monthly meeting of above Society was held at the Parish Room, Shirley, on the 18th inst., there being a good attendance of the members, presided over by Mr. B. Latham, F.R.H.S. The lecture was given by Mr. A. Dean, F.R.H.S., the subject being "Horticultural Shows, their Uses and Lessons." Mr. Dean said the uses of shows were manifold, teaching exhibitors to see their weaknesses by comparison, to lose manfully, to win humbly, to take notes of good forms of vegetables and flowers, and especially those of recent introduction. There was a brief discussion as to the desirability of committees of shows accepting prizes from seed firms, who make it a rule that the exhibits in those classes must be grown from their seed. A hearty vote of thanks was accorded to Mr. Dean, who, in responding, proposed a vote of thanks to the exhibitors, who had placed a large number of exhibits on the board on this occasion. Mr. Dean also, at the desire of the members, handed to the Secretary a cheque as a recognition of his services, and in doing so made some very complimentary remarks.

HOUSING ZONAL PELARGONIUMS.—Good as it is to allow these plants to remain in the open air as long as possible, it is very important that those at least which are required for winter flowering are not kept out after the end of September. If they are the growth is checked, though no actual frost may have reached them, and they will not flower so early in consequence. With bedding plants struck a few weeks ago it does not matter so much, as these, though not any more hardy, are not required to grow much now, while upon the rate of growth of the winter flowering kinds depends the rate of flowering. I do not wish by this to be taken as advising quick growth now or later, and anything in the way of forcing conditions should by all means be avoided; but any house that goes below 45° to 50° at night in winter is not suitable for this plant when grown for producing flowers. Every endeavour should be made to prevent drawing by arranging the plants thinly and keeping them as close to the light as possible. When housing or placing in frames see that the pots are thoroughly clean and the plants free from dead leaves. This treatment should also be given to Ivy-leaved Pelargoniums, and those of the Show and Reg sections, the last being kept a little on the dry side now.—H.

— **SNOWSTORM ON BEN NEVIS.**—It is announced that on Sunday last snow fell heavily on Ben Nevis, covering the ground to a depth of 9 or 10 inches, exclusive of drifts, where it was considerably deeper.

— **RAIN AND DEVASTATION IN INDIA.**—A Reuter message from Calcutta reports that on Monday night 28 inches of rain fell in thirty-eight hours near Darjeeling. Extensive landslips have occurred, many lives lost and extensive Tea plantations ruined.

— **DRYING OF THE GROUND BY ROOTS.**—It is an undisputed fact that some plants require more moisture than others, and the gardener will profit by careful observation looking to a better arrangement of the garden and grounds to best withstand droughts. A writer in an American contemporary was interested recently in noting how rapidly a row of Radishes sucked up the moisture from the ground. The tops were too small to keep the soil from getting well soaked by a good rain, so the moisture was spread pretty evenly. In less than twenty-four hours, along the whole row, the soil was dry to a space of 1½ inch on either side.

— **PEPPERMINT.**—Peppermint is reviving the drooping spirits of the depressed agriculturist. So profitable has the Sutton Urban District Council found its cultivation that it has determined to add two more acres to the area at present devoted to that fragrant plant. The body mentioned has paid great attention—more than most local authorities—to the utilisation of sewage, and Peppermint is one of the products of the land where this is turned to profitable account. Last year, says a daily paper, there were four acres under cultivation. When the plant is cut and dried the leaves are distilled, and the oil thus obtained finds a ready market. The yield of this odorous liquid was 119 lbs., the value of which amounted to £145 15s. 6d., or £36 8s. 10d. per acre. Considering all the circumstances this result is highly gratifying.

— **UNKNOWN AND USELESS APPLES.**—From time to time we have to describe with accuracy, as above, Apples which are sent to be named; a fruit sent by "C. H. B." was so characterised on page 243, September 14th. The sender informs us that fruits of this "unknown and useless Apple" fetched 5s. a bushel in Covent Garden this year. We can only say that the fruit examined resembled a trashy sample of the small Yellow Ingestre, which is a favourite costermonger's barrow Apple in London, and the fruits are crisp and sweet. The one we tested was positively sour. We can understand better samples of the variety being mistaken on sight by the buyer for Yellow Ingestre, who would thus give the price named for them, and he would unwittingly take in the eaters who bought the so-called pennyworths of fruit. This is the only explanation we can give of the "sell."

— **ASSIMILATION OF CARBON BY LEAVES.**—From experiments made at Kew, Dr. Horace T. Brown, F.R.S., in an elaborate paper read before the British Association, described the method by which the amount of carbon dioxide abstracted from the air was determined. He said: "In our experiments the air was in all cases taken from a height of 4 feet 6 inches from the ground. The actual intake of carbon dioxide is determined by enclosing the entire leaf in specially constructed air-tight, glazed cases, through which a sufficiently rapid air stream is passed. These cases are so arranged that the leaf can be enclosed whilst still attached to a plant which is growing out in the open under perfectly natural conditions, and some of them are sufficiently large to take the entire leaf of a Sunflower. The carbon dioxide content of the air is determined both before and after its passage through the apparatus, and since the amount of air passed is known, we have all the data requisite for determining the actual amount retained by the leaf. An experiment generally lasts from five to six hours. In order to show the kind of results obtained in this manner I will give one or two examples. A leaf of the Sunflower was enclosed in its case whilst still attached to the plant, and was exposed to the strong diffuse light of a clouded sky for five and a half hours, air being passed over it at the rate of nearly 150 litres per hour. The content of the air in carbon dioxide as it entered the apparatus was 2·80 parts per 10,000, and this was reduced to 1·74 parts per 10,000 during its passage over the leaf. In another experiment made with the leaf of *Catalpa bignonioides* in full sunlight the amount of carbon dioxide in the air passing over the leaf fell from 2·80 to 1·79 parts per 10,000." The practical point for gardeners to consider is the production of thoroughly sound, healthy leafage, by the agencies of appropriate food, temperature, and exposure to light, in order that a full amount of carbon dioxide can find entrance in the minute openings (stomata) for the formation of starch and other compounds. Dr. King says the formation of a gram of starch requires 1·628 grams of carbon dioxide.

— **MR. PRINGLE OF Blenheim House, Teddington, writes to the "Daily News" as follows:**—"It may interest naturalists to learn that a Chestnut in the garden of Marlborough House, Teddington, which had lost nearly every leaf during the scorching weather through which we have passed, has, under the influence of the recent refreshing rains, not only put out an abundant and charming spring-like foliage, but also displays many beautiful blossoms. I have known many other trees do the like in a mild, moist autumn, but never a Chestnut. Numerous passers-by stop to gaze at the unusual show."

— **KOLREUTERIA PANICULATA.**—The dryness of the past few months appears to have been advantageous to this plant, judging from the free manner in which it is flowering. It is a Chinese plant, and is usually met with as a tall, bushy shrub, though it sometimes attains the height and dimensions of a small tree. It has light green pinnate leaves about 9 inches long, and during August and September produces large terminal panicles of yellow flowers, more lightly arranged, but after the manner of the Horse Chestnut. The flowers are followed by triangular, inflated fruits, containing several small rounded seeds each. It is a desirable plant for shrubberies of tall growing stock, the foliage being handsome, and the flowers being produced at a season when hardy flowering shrubs are scarce. It grows well in light loam. When young it should be sheltered somewhat for a year or two, as young plants make soft growth which is inclined to be tender.—W. D.

— **DAHLIAS IN POTS.**—At the Rochester Dahlia Show there was a class for the best Dahlia grown in a pot not exceeding 10 inches. The President of the Society, Mr. C. Willis, jun., provided the plants; and Mr. H. Pitt special prizes. This contest created considerable interest among the members, eighteen competing. The first prize was won by Mr. L. Williamson with a well-grown plant, having fourteen fully developed blooms; Mr. H. Gauge second; Mr. J. Tree third. The plants were all the same variety—Standard Bearer, a dwarf grower, and well adapted for pot culture, supplied by Messrs. Cannell & Sons of Swanley, who exhibited a large collection of the newest and best of the Cactus varieties, their exhibit occupying all one side of the hall. Mr. M. V. Seale of Sevenoaks, filled the opposite side with a varied collection.—R.M.

— **ASTWOOD BANK AMATEUR GARDENERS' SOCIETY.**—On a recent afternoon the members of this Society spent an enjoyable time at Ragley. After a pleasant drive from the home of the Society Ragley was reached, and the kitchen garden first of all inspected. The fruit, of course, provided the greatest attraction, as although most of the early kinds of Apples, Pears, and Plums had been gathered, some splendid specimens remained. Each visitor was invited to try them. "Help yourselves, gentlemen," was the genial and appreciative order of the day, a pleasing change from the "touch not, taste not" rule. To notice in detail the crops which came under view would take too much space, but further allusion to trees in the open will be forgiven in the case of the Apple Stirling Castle. The sight of these trees alone was worth the visit—they were a mass of fruit. The various houses were inspected, and the contents admired, notably the fine crops of Tomatoes and Grapes. The hall and pleasure grounds were next visited, and the beds, especially at the principal front, looked charming, although some of them showed conspicuously the effects of the late severe drought. The drive was followed by a capital dinner.

— **METHEOLOGICAL OBSERVATIONS AT CHISWICK.**
—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest. Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1899.										
September.										
Sunday ..17	W.S.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday ..18	W.S.W.	58·5	54·7	68·9	48·9	—	59·1	60·9	60·5	39·5
Tuesday 19	W.S.W.	57·9	52·0	63·2	51·8	0·08	59·1	60·6	60·4	43·9
Wednesday 20	W.S.W.	56·2	50·8	62·7	54·0	0·21	58·3	60·2	60·2	46·9
Thursday 21	W.S.W.	51·9	48·9	59·3	49·3	—	57·8	59·8	60·1	42·8
Friday ..22	W.N.W.	52·4	47·3	62·8	40·9	0·15	55·3	59·2	59·9	29·8
Saturday 23	W.S.W.	55·1	46·8	59·9	51·0	—	57·1	58·8	59·6	44·7
		53·3	47·0	58·9	40·5	0·02	54·8	58·5	59·5	38·5
MEANS ..		55·5	49·8	62·2	48·1	Total 0·46	57·4	59·7	60·0	39·4

The weather has been dull and showery, with strong west winds.

NOTES ON GRAPES.

So many excellent and instructive notes on this ever popular fruit have appeared in the Journal of late that I should like to notice one or two points brought out, and sorry I have not been able to do so sooner as I intended. The late great Grape competition at Shrewsbury has no doubt given an impetus to Grape growing and Grape showing on both sides of the border. It has also prompted many sensible remarks, and some "gie queer anea." Let us hope the interest will be kept up and be of lasting benefit to all.

On page 139 of the Journal of 17th August, "A. D.," under the heading of "Popular Grapes," has some very sensible remarks on what he aptly terms the "fugitive popularity" of new and certificated varieties. I am at one with him in thinking that a radical change is needed in making this award to new Grapes.

Too much, if not all the stress, has evidently in the past been put on the appearance and flavour of samples submitted, while the

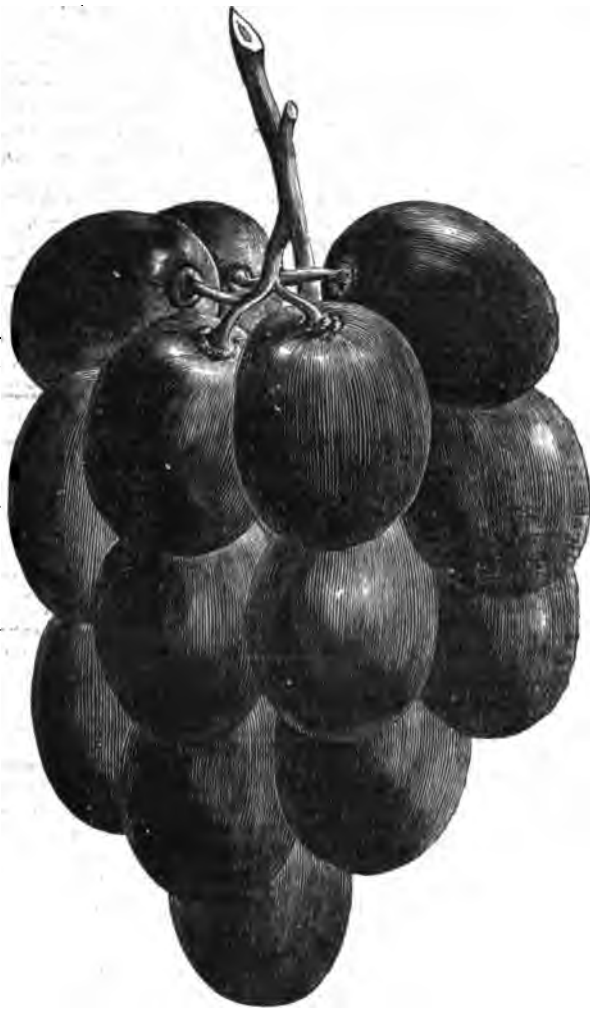


FIG. 53.—GRAPE GROS MAROC (PART OF A BUNCH).

qualities of free growth, easy ripened wood, fruitfulness, and free setting, without which no Grape can ever hope to become a popular standard variety, appear to have been entirely overlooked. In almost every case of a new Grape which has practically dropped out of cultivation its decline can be traced to constitutional defects in its growth or fruit, not but that its flavour and appearance—when seen at its best—is as good to-day as when it received its first-class certificate for these qualities alone. Societies would do well to pause when the parentage of a new Grape is of a doubtful character.

In reference to this subject the thanks of the gardening community are due to Mr. Molyneux for the light he throws on the subject of standard and popular exhibition varieties by his full and interesting audit of all the Grapes staged at the recent Shrewsbury Show, which appeared in the Journal of September 14th, page 224. In this audit I notice he classes Gros Maroc and Cooper's Black as distinct varieties. They were certainly shown as such, though I did not notice a single bunch the least like the Cooper's Black with which I am acquainted. It is a common practice of exhibitors to show Gros

Maroc, if a little undersized in berry, as Cooper's. If we take the eight bunches of Cooper's in the audit as Gros Maroc, this puts this variety next to the Black Hamburg in popularity for blacks, and certainly was the most popular variety in the champion class, being represented in each of the six stands. At the late Edinburgh Show this variety was next to Muscat of Alexandria in the number of times shown, and easily first among blacks. What a unique position it holds amongst Grapes—so easily grown, so handsome in appearance, and yet one of the worst flavoured sorts in cultivation. Did it ever receive a first class certificate, Mr. Editor?

Another point Mr. Molyneux mentioned was the showing of Bowood Muscat and Muscat of Alexandria in the big class. Like him I, too, was under the impression for some time that both could not be shown together. This may have been the intention of the framers of the schedule, but the wording makes both admissible. It would be well if this were made more explicit in future, also that nice point whether two single boards placed together was equivalent to "each variety to be shown on a single board." Canon Hall Muscat, as represented at Shrewsbury, was a puzzler to me; I could see about as much difference between this variety, Bowood Muscat, and Muscat of Alexandria as I saw between the Gros Maroc and Cooper's Black shown. The two latter could in many cases have been cut from the same Vine. The Canon Halls I considered rather indifferent samples of this noble-looking Grape, loose straggly bunches, with berries not much more than half the normal size. Canon Hall is most certainly a distinct variety, though, as seen at Shrewsbury this year, it ought to be classed, "for the purposes of their big prize," with Bowood Muscat, Muscat of Alexandria, and the others mentioned in the schedule, and only one to be admissible.

I cannot leave the champion Grape class without a word of praise to the individual—whatever he was—that first thought of the decorative element in connection with this competition. How well they went together, and what a striking and pleasing exhibit they made! The three gentlemen who adjudicated deserve the highest praise for their painstaking labours. I never knew such an important class to be judged, and not a single grumble to be heard afterwards. The arrangements were most complete to the smallest detail, each bunch being judged on its merits, and the number of points awarded to each displayed to the public was not only fair and right, but highly instructive. It was well worth the Judges' while to strip to the shirt—as they did—and with the aid of two lawyers proceed to business, when the result was so satisfactory. As an instance of the accuracy of point judging, I may mention that the writer, when seeing the first prize collection on the Vines at Keir a fortnight before the Show, pointed them over before two gentlemen. This was put aside till after the judgment, when both we found exactly the same—96 each.

We in Scotland ought to be truly thankful for this big competition. It has opened our eyes to the inestimable blessing of a cool moist climate. We now know that to have well finished Muscats by the end of August you must possess the cool climate of a Scotland. The everlasting Scotch mist, hitherto cursed by tourist and native, has been a blessing in disguise. Was it not this moisture-laden atmosphere which kept Mr. Kirk's Madrasfield Courts dead ripe for six weeks before the Show without a split berry? Your "endosmose" theory, Mr. Editor, is gone for ever.* As for poor Mr. Lunt, his nationality is past finding out, and will never be known. He is dragged across the Solway by one party, and made to swear on oath that he is a Scotchman; by another party he is dragged back again, and made to swear that his father and mother were Englishmen—I mean his father only, as his mother is a good English woman. Such is fame.

Ever since the "great combat" the cry has come from many quarters that it is the superiority of climate which makes the Scotsman so successful with Grapes. I saw in a contemporary the other day the Grape-growing district of the United Kingdom defined as beginning at Lambton Castle in co. Durham and ending at Castle Huntley in Forfarshire, having its principal and most important centre around Stirling. All such talk is downright nonsense. With your leave, Mr. Editor, I mean to devote a whole chapter to this subject at an early date. Meantime, let me express the hope that this Grape-growing rivalry between North and South may be continued in the happy friendly spirit in which it has begun.

At one of the "R. B." socials, during the Edinburgh Show the other week, the "battle of Shrewsbury" was being fought over again, one of the speakers made a suggestion which I think is worth making public. It was to get up a sort of "America Cup" for Grapes, to be competed for year about at Edinburgh and Shrewsbury, the societies to hold the cup and provide liberal money prizes to go along with it; the money to provide the cup to be contributed equally by both societies. I think there would be no difficulty, even if it were left to private subscription, to get up, say, £100, and I am certain if

* We did not know it was our theory; we can claim no such honour; but it is true all the same, and will endure as long as the Madrasfield Court Grape.

such were adopted both societies would be gainers in the long run.
—D. BUCHANAN, *Forth Vineyard, Kippen.*

[1, Will our readers who are interested in Grape growing and exhibiting, also both Societies, consider the National Cup question? 2, Our able correspondent may send his chapter on the "downright sheer nonsense" question at his convenience. 3, A first-class certificate was awarded for Gros Maroc Grape by the Fruit Committee of the Royal Horticultural Society on October 12th, 1880. Shortly afterwards we illustrated a shoulder of it (fig. 53), and published the following historical notes:—"This very imposing Grape, a portion of a bunch of which is represented in fig. 53 was obtained by Mr. Rivers in 1850 from M. Vibert of Angers, a very enthusiastic and skilful viticulturist, who raised and sent out many seedlings, but did not raise the variety in question. A Vine of the Gros Maroc grown in a pot in a forcing house at Sawbridgeworth first attracted attention by its great fertility, and the colour and late-keeping properties of the fruit. As soon as room could be given it was planted out in a vinery, and it has now developed into a valuable black late autumn Grape. The berries are large deep blue black, carrying a very dense bloom, flavour sprightly but not rich. It is rather singular that when grown in a pot the Vine produces bunches at every joint, but when planted out the growth is so vigorous that it will not submit to spur-pruning; Mr. Rivers therefore recommends growing it on the rod or extension system. Gros Colman was sent to Sawbridgeworth by M. Vibert about 1848 as a present, and being a 'gift horse' was not much thought of for many years, but its hidden virtues have at last brought it into notice as one of the largest late Grapes. Gros Maroc has gone through the same career, and its merits are now recognised. Like the Black Hamburg the fruit of the variety in question is not likely to cloy the palate, and it is no worse for being an old variety. It was first exhibited at one of the meetings of the British Pomological Society—namely, in August, 1857. The fruit was in an unripe state. The variety was then determined to be the Damas Bleu, Gros Damas, Merbregie, or Gros Maroc, which was grown and esteemed in the south of France for its fine appearance and good quality. It is known in Italy as Uva Damascena."]

EUPHARIS BURFORDIENSIS.

THE value of the refined flowers of the several forms of *Eupharia* for various purposes of decoration is recognised by everyone—in fact, they constantly grow in appreciation. It is, nevertheless, comparatively seldom that a new one of distinctive merit is placed before the gardening public, so that when such an event occurs the plant finds ready admiration and appreciation. Such proved to be the case on the 12th inst., when Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, contributed *Eupharia burfordiensis* (fig. 54) to the meeting of the Royal Horticultural Society held in the Drill Hall, James Street, Westminster. It is a hybrid resulting from a cross between *E. Masterri* and *E. Sanderi*, and it is perfectly distinct. As with other *Eupharia* the flowers are pure white, but where, with one or two notable exceptions, all the types have flowers which expand their parts and become quite flat, *E. burfordiensis* is tubular in form, and most attractive. The segments are long and pointed, and slightly wavy in outline. When this hybrid becomes known it is safe to predict for it a great popularity. The Floral Committee recommended a first-class certificate.

TRANSPLANTING PEACHES AND NECTARINES.

NORWITHSTANDING the frequent repetition of the advice to plant early, it is surprising how many gardeners are still in the habit of leaving work of this class until quite late in the season before preparing for it, let alone getting at it. If undertaken in a timely and proper manner there is no more fear of losing a crop of Peaches and Nectarines owing to transplanting, than there is of losing the crop of flowers from a *Pelargonium* after repotting. It is simply a cultural detail, that may be carried out quite easily if due care is exercised before and after the operation.

There may be blanks requiring to be filled in Peach houses, and

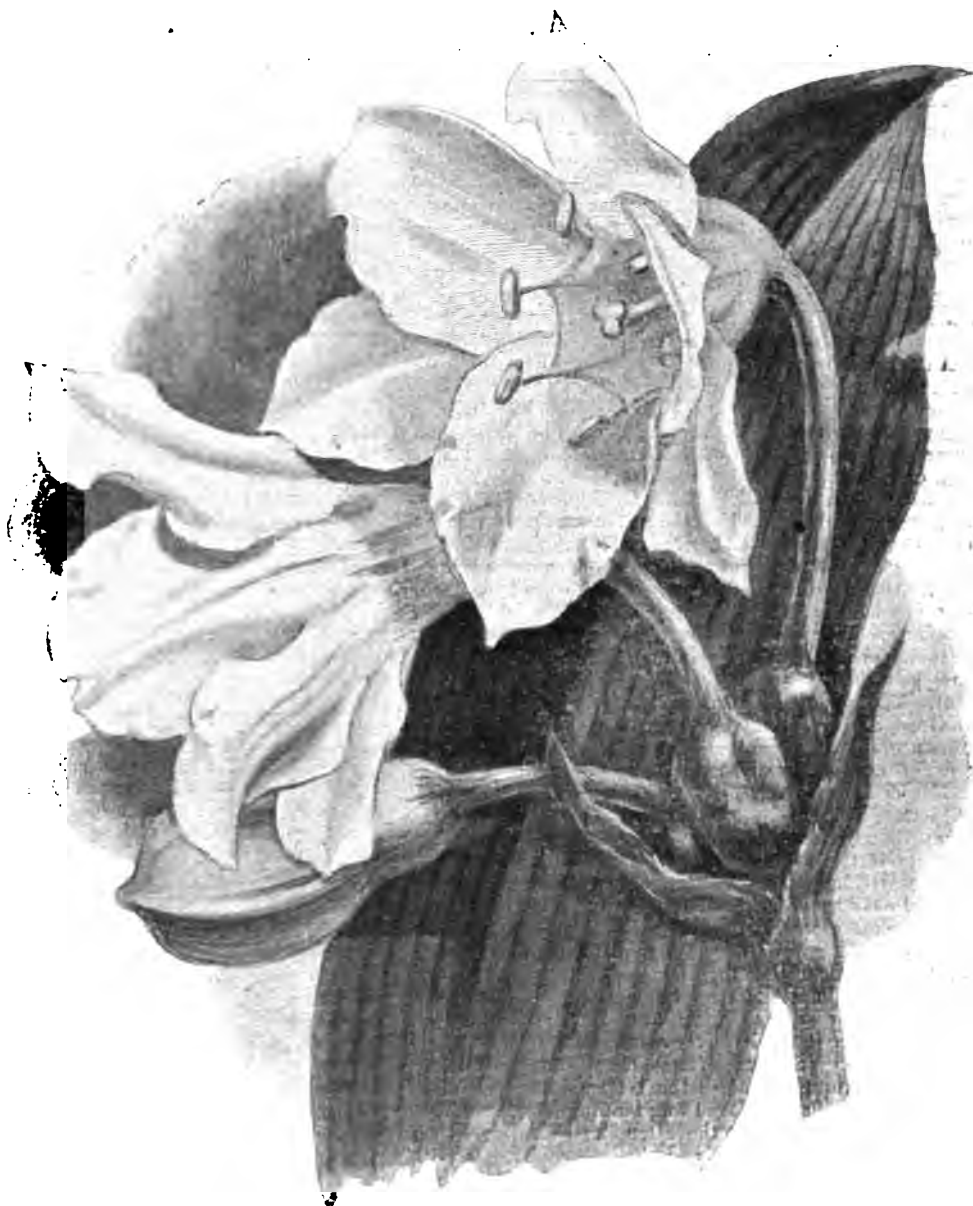


FIG. 54.—EUPHARIS BURFORDIENSIS.

healthy young trees have been growing on the walls for the purpose. Usually by the end of September or the first or second week in October, according to the variety, these trees will have reached the proper stage for transplanting; that is, when the buds are well developed along the young growth and the leaves are still on the trees. At the fall of the leaf there is always a good deal of root action proceeding, and this will be increased by the transplanting, so that the trees will soon re-establish themselves, plump the wood, and, if properly treated in other respects, carry their usual crop the ensuing season.

The actual work in connection with transplanting is not great, but it must be systematically and carefully done, and also with despatch. Unless rain has fallen in more than usual quantity the roots should have a thorough soaking, not merely a surface watering,

a couple of days before lifting. Take the soil out about a yard from the base of the tree and to the full depth of the roots, working it out from the latter with a fork to within 18 inches of the stem all round, and then getting a couple of lifting spades quite underneath, lift the tree with all the earth possible, and place it on a hand-barrow previously covered with a damp mat.

Draw this up and around the roots, and take the tree to its new position at once, where a sufficiently large hole will previously have been made. Trim off all bruised roots with a slightly sloping upward cut, and carefully avoid injury by bruising or dry winds of the smaller and more fibrous portions. Then fill in the soil to a proper height for the base of the roots to rest on, and as quickly as possible place the tree in position. Fill up and make the soil firm about the roots. The whole operation, from the time of lifting to well soaking the newly planted tree with water, may be done in half an hour if plenty of help is allowed.—H. R. RICHARDS.

WITH THE HARDY FLOWERS.

BRILLIANT sunshine and long, dry days are not favourable to many of our hardy flowers. The rain which was falling when one's last notes were written was soon dried up, and plants began to suffer. Those in bloom soon lost their freshness, and those which were to follow waited for a supply of the needed moisture before they could open their petals. Thrips were abundant and destructive to the beauty of some flowers. Though these combined causes made borders of hardy plants duller than their wont on light, dry soils, there were some which appeared to revel in the sun and drought.

Among the more noteworthy of these have been the *Statice*s, whose light and graceful beauties have scarcely been sufficiently brought before the readers of the Journal. One of the best and most effective of our hardy *Statice*s is *S. latifolia*, whose fine leaves and handsome inflorescence give it a strong claim on our garden space. It is, when well grown, one of our best border flowers. Either in growth or as a cut flower it is of high merit. Like most flowers, the "Great Sea Lavender" varies much in height, according to the soil in which it is grown. One has seen it not much more than a foot high; while in other gardens it may grow to 2½ or 3 feet in height. Looked at from a little distance the fine panicle of flowers looks less bright than when seen close at hand. This is due to the colouring of the calyces and bracts. When near one sees, however, the beautiful light blue of the individual flowers. When dried, as all the *Statice*s may be, this is no gain, but in growth it gives much additional beauty to the plant. The rosettes of broad leaves are very handsome, and altogether the Great Sea Lavender may be ranked as one of the indispensable autumn flowers. It comes from Russia, and may be grown from seeds, or increased by division.

Nor can one leave the *Statice*s without referring to the dwarfed and, if less handsome, pretty species known as *S. incana*. The type has small crimson flowers with whitish calyces, but a more general favourite is the white variety known as *alba*, which again finds a preferred rival among alpine growers in the dwarf variety known as *nana*. Pretty as is the last in the rock garden, in the border the taller typical plant is, in the writer's view, preferable. *Nana* is, however, worth growing, even though the plant is in itself not quite so hardy as some of the other species.

It seems almost superfluous to draw attention to any of the *Montbretia*s, for by this name most of the *Tritonia*s are best known in gardens. Yet one can hardly over-estimate their worth to those who care for variety in floral charms in autumn. I am not, however, going to say anything about the better known hybrid *Montbretia*, but to pen a few lines in favour of *Montbretia* or *Tritonia rosea*, a plant seldom seen but deserving the attention of growers of hardy flowers who can appreciate its soft and distinct colour. It does not much resemble the hybrid *Montbretia*s. The flowers, which are of a beautiful rosy pink, are more tubular in shape and are more loosely arranged than those of the others. It is one of the plants about whose hardiness I had at first some doubts, but from observation of its ways in other gardens and in my own I feel assured of the hardiness of *Tritonia rosea* in any but the coldest districts. This plant comes from South Africa, and may, in some gardens, require a little protection in the way of a covering of litter in winter.

Several of the *Starworts* or *Michaelmas Daisies* are in bloom. One generally pleasing, though its blooms are neither large nor well formed, is *Aster acris*. It gives a perfect bouquet of flowers of bright lilac-purple. Comparatively poor in themselves, sprays of these flowers may be used with effect among others in a cut state. *A. amellus major* is fully open, as are the greater number of the useful *Starworts* in full blow.

So frequently does one see the brilliant varieties of *Lobelia cardinalis* in gardens that it is rather a pleasant relief to see the tall kinds of different colouring. The varieties of *L. syphilitica* are not widely grown, and one of these, or, it may be, a hybrid with *L. syphilitica* as one of its parents, is most pleasing at the

present time. It is *L. Millevi*, a plant which gives a good spike of well-coloured blue flowers. It seems, as *L. syphilitica* does, to like a rather moist soil, but grows fairly well in a dry one provided plenty of water is given.

These few notes have been written to speak of plants giving a break in colour from the yellow *Helianthus*es and their kind. There are others which might be referred to if space were available. We can think of the Japanese *Anemone*s, now becoming varied in their forms and shades of colour. Then there are *Violas*, the stately *Tritomas* or *Kniphofias*, and tall *Gladioli*, beautiful in hue and of lovely markings. Bright yet are *Phloxes*, though many have suffered from the stress and strain of the drought. Stately, too, are the late-flowering *Aconitums* or *Monkshoods*.

One might go on for a time, but the glory of the garden, though for the time fainter than it was, is yet too varied to be told of except at greater length. Through all are the *Sunflowers* and their allies—the riches of the time.—S. ARNOTT.



PROSPECTS IN WILTSHIRE.

THE *Chrysanthemum* season, although it really extends over the whole year, resolves itself into a much shorter space of time from a floral point of view, and for the next few weeks enthusiasts will eagerly scan pages of the Journal to learn the comparative prospects. Judging from a standpoint of ripened wood, the season ought to prove a good one, for rarely has there been one in which sunshine has been so little interrupted. Much complaint, however, comes from growers in the West of the great labour this summer, which in so many cases has had to be supported with water drawn from some distant source by manual labour. Those having a good water supply have been distinctly favoured. Having seen some collections varying in number and also in quality, I append a few notes upon them.

HEYWOOD.

My annual inspection of this collection reveals what, in my opinion, is the best that Mr. W. Robinson, Lord Ludlow's gardener, has had for some years. Unlike some other collections inspected, his plants are remarkable both for their height—many of them requiring the steps to manipulate their buds—their vigour, freedom from yellows, and carrying as they do their foliage well down to the pots. The buds in various stages of development are advancing very satisfactorily, and show much promise of a fine display later on. Lord Ludlow takes a deep interest in his "mums," and well supports his gardener in the necessary material for successful competition—new varieties—which support is justified in the annual display and prizewinning records.

The following are a few among the most prominent of the newer ones:—Hon. W. F. D. Smith, Lady Anglesey, Lord Ludlow, M. Louis Remy, The Wonderful, Wattle-blossom, Australian Belle, Catherine Rogers, Emily Towers, H. J. Jones, Henry Weeks, Jane Molyneux, Lady Crawshaw, Lord Cromer, Madeline Davis, Mrs. Burkle, Mrs. Coombes, Mrs. W. Seward, R. Hooper Pearson, Reginald Godfrey, Sir Herbert Kitchener, W. Cursham, W. Adams, Little Nell, Hero of Omdurman, and J. R. Upton. Of older Japanese mention might be made of Mrs. Mease, G. J. Warren, Mrs. H. Weeks, E. Molyneux, Pride of Stokell, The Convention, Miss Nellie Pockett, John Pockett, Le Grand Dragon, Mrs. White Popham, Mrs. J. W. Barks, Lady Hanham, Joseph Chamberlain, Vivian Morel, and Madame Carnot, all in fine condition.

Incurred varieties are in an equally satisfactory state, and many promising buds are developing. Out of a collection of 400 plants, however, representing four sections, Japanese must naturally out-distance the others in numbers. Mrs. H. J. Jones, Miss Annie Hills, *Chrysanthème Bruant*, and Mrs. Col. Goodyear were particularly noticeable among the newer incurred.

LEIGHTON HOUSE, WESTBURY.

For some few years this, the residence of W. H. Laverton, Esq., J.P., C.C., has held a very good record for *Chrysanthemums* in the West, the late gardener, Mr. P. Mann, and his wife, both being honoured with novelties carrying their names. Mr. Mann's successor, Mr. G. P. Bound, has made a determined effort to maintain the traditions of the past, though he cannot call in that support from the world of novelty to anything approaching the extent of his neighbour, Mr. Robinson. This, however, may be remedied another year, and while necessary, is not all-important, since the collection is grown entirely for home decorations, which are extensively carried out during the winter months. Numbers of bush plants as well as those for producing specimen blooms are grown for this purpose.

The visit being an evening one dark as deprived me of the opportunity of getting a representative list of the varieties grown, but the following are a few of the best:—Duke of Wellington, Sunstone, John Lightfoot, Royal Standard, Octoroon, Billie Mauve, Mr. E. G. Whittle, Van den Heede, Beauty of Teignmouth, Oceana, Viscount R. de Chazelles, Graphic, Mrs. H. Kloss, Eva Knowles, Le Moucherette, Mrs. Hume Long, Miss M. Godfrey, Dorothy Seward, Mons. Chénon de Leche, Lady Hanham, and Lady Byron. The incurved section is not so much valued for conservatory use as the Japanese, but some promising buds appeared on Chas. Curtis, Bonnie Dundee, Globe d'Or, J. Agate, Mrs. R. C. Kingston, Camille Flammarion, Wm. Tunnington, Princess of Wales, and Lucy Kendal.

BROMHAM FRUIT FARM.

The manager of this establishment, which is located near Chippenham, last year paid a surprise visit to some of the leading Chrysanthemum shows—Royal Aquarium, Manchester, Devizes, and Bournemouth, for instance—and annexed some enviable prizes, including a handsome silver cup and a gold medal, the latter being brought from Manchester. Chrysanthemum cultivation is only a very recent development in this thriving fruit farm, and the success already attending it proves that the native soil, a good local manure (manufactured, I believe, on the premises), and close attention to cultural detail, combines to an extraordinary degree the requirements of the exhibition Chrysanthemum.

Mr. Vallis entrusts the work of this department entirely to his son, a man of such an unassuming and modest nature that he hesitated giving me the names of his plants, lest his efforts might end in failure, judged by forthcoming contests. His plants bore numbered labels only, but many of them, even the newer ones, were familiar to him by name. Unless overtaken by any unforeseen accident there is no doubt but that some successes await him, for many of the plants were full of promise. Some were apparently too forward in bud, and others had felt the effect of the fierce sun acting on the pots, but as the collection has doubled itself in numbers since last year, there remains a very good prospective margin.

The situation is an open one, and the soil, of a reddish colour, is said to be charged with iron in quantity sufficient to benefit the plants and colour of the flowers, the latter being distinguished by such high development in this respect; indeed, few flowers were seen last season that could approach the Bromham blooms for intensity of colour and clearness of petal.

ROOD ASHTON.

The collection here comprises about 800 plants, 300 being grown for large flowers, but the principal object is to furnish a continuous supply for house and table decoration throughout the winter months. The plants this year are characterised by unusual dwarfness, attributable mainly to the heat of the summer and an open position. Mr. Strugnell has not the enthusiasm for competition in Chrysanthemums as his neighbour, Mr. Robinson; still his plants show a very good prospect of useful exhibition flowers. They are somewhat later in the bud than the Heywood collection. There are included among the varieties some of last season's novelties, but up-to-date novelties, presumably, are a luxury that is not justified by the requirements of the place, the interest in them not extending beyond their use in the mansion of the Right Hon. Walter Long.—VISITOR.

A RUN ROUND WEST.

SHERBORNE CASTLE.

HAVING an all too short week to spare for a holiday, I set out on the morning of the 4th inst. from Surbiton to Sherborne, Dorset, to pay a visit to my esteemed friend Mr. Turton, who succeeded the late Mr. Pragnell in the Castle gardens there last winter. The Castle, the residence of J. K. D. W. Digby, Esq., the M.P. for that division of the county, is only a few minutes' walk from the station, but the gardens are nearer. These have, in the short term of Mr. Turton's residence, undergone some much needed improvement. The glass houses are fairly good, but the kitchen gardens generally are excellent, and are enclosed with a long range of walls that is well utilised with trees of all descriptions, Pears especially. Of these fruits there is a great crop, but so voracious are birds that it is found needful to put some 2000 or more into muslin bags. When I saw these I wondered what would be the cost of so many of those perforated cases which are being used at Chiswick for trial, and elsewhere.

It would take a long list to give the names of all the Pears fruiting well here, but there seem to be most of the best. Apples again, both on bush trees of various ages, and standard trees on grass, are fruiting well, and in one garden there is all round it a treble row of horizontal cordons, Cox's Orange Pippin, bearing fine fruits, being largely represented. There are some of Merriott Scott's Apples here; one Robinson's Seedling is very handsome, like a King Pippin in form, but far more richly coloured. Loan's Pearmain is another very attractive Apple. I noted some two dozens of bush tree varieties fruiting finely, but the trees are very numerous, and not one-half could be mentioned.

Vegetables are well done. I observed the best row (some 7 feet in height) of climbing French Beans I have seen anywhere. It was fruiting

wonderfully, and was a great possession. Tomatoes, both inside and outside, give splendid crops. A breadth of Sutton's Bijon Savoys was a remarkable one. I have seen nothing so good this season.

Some flower borders formed and planted in the kitchen gardens lately have given great pleasure, and they have been wonderfully gay. Zinnias have been singularly fine and beautiful, as also have many other flowers. The pretty dwarf Ageratum Perle Bleu, much grown here, is by far the best in cultivation yet. The park is of great extent, finely undulating, and on the higher portions well timbered. Just in front of the castle is a huge lake of 100 acres, but in the summer it becomes covered with *Nymphaea alba*; white swans and waterfowl greatly abound. Beyond the lake on rising ground are the ruins of the ancient castle, and these constitute a favourite place for local fêtes and parties.

The soil here is chalk, but trees seem to thrive well on it. The grounds round the mansion are somewhat bare at present, being, beyond some trees, chiefly of smooth lawn, but no doubt improvements will be effected in time.

FORDE ABBEY, CHARD.

On the following day I proceeded to Chard Junction, where another esteemed friend, Mr. J. Crook, met me, and took me out to that ancient place, Forde Abbey, which has so interesting an history, and is, for so old a building, remarkably well preserved; it lies in a hollow. The stream, which flows near by, was no doubt in pre-Reformation days a river. Whilst the kitchen gardens lie still lower, the extensive pleasure grounds, so densely wooded, lie higher. Close to the Abbey are pretty flower gardens, and climbers of all descriptions trained over the building seem to be singularly harmonious, as indeed are the surroundings.

The Abbey, which is now in the possession of F. C. Evans, Esq., contains one of the richest collections of tapestry to be found in the kingdom. Though low-lying, it is yet a delightful place, and seems full of repose. It is the place to which a statesman may well resort to obtain rest from exalting labours. The kitchen gardens are well walled in, these walls being fully utilised in every direction with fruit trees. There are vinerias and plant houses, and in one, a long corridor, Peaches and Plums do wonderfully well. Gladstone Peach on the front of the building was carrying a grand crop of fruits. Apples here, on certain trees, were very fine. Of Domino and Stone's Pippin I never saw such splendid crops, and many others were good also. Pears were capital. Mr. Crook makes the best of every inch of room, and secures great crops. Possibly, so low down, the gardens have suffered less from drought, but on the higher ground it was severely felt. Forde Abbey is always worthy of a visit.

YEOVIL BEGONIAS.

On Wednesday morning I set out for Yeovil, where I made a very brief call upon the famous Western Begonia grower, Mr. B. R. Davis. That excellent nurseryman has found the season a very trying one for his pets, but he had a brave show in his houses of beautiful singles and doubles, the cooler temperature enabling them to produce fine blooms. Outdoors thousands of single and double varieties were growing and flowering. Of these I felt most interest in the bedding section of smallish doubles, which Mr. Davis has aimed to secure.

If anyone had doubts as to the fitness of propagated doubles of this class for bedding purposes, they would have been set at rest on seeing that brilliant self scarlet variety, Lafayette, which has caused almost a sensation in a couple of beds at Hampton Court this season. This has long been one of the Yeovil favourites. Empress of India is a dwarfier variety, very sturdy, flowers bold and erect, profusely produced, intense red in colour. Mitylene, of the same character, is a charming bright yellow double. Lucania grows to 12 inches in height, is reddish carmine in colour. Acantha is a pleasing soft primrose, 10 inches in height. A grand scarlet is Plato, the flowers partially fimbriated. Others are Gladiateur, crimson scarlet; Rev. E. Lascelles, orange yellow, quite charming; Mrs. Hope, bright scarlet; Marbette, plum colour; Tom Thumb, salmon, compact; and Lovely, pink, should make a delightful bedder. No one having once employed this bedding section, planted thinly on a carpet of some neutral colour, would use the large flowered varieties for bedding. Brief as the visit here was, it was most gratifying.

JAMES LYE'S FUCHSIAS.

Taking the Great Western Railway at Yeovil, for Devizes, via Trowbridge, where a change of trains is needful, I on the way past Westbury noticed on the side of the lofty chalk hill in the distance the famous White Horse of the West cut in the turf. At Devizes I was met by that famous old western Fuchsia grower and raiser, Mr. Jas. Lye, and driven out to his present home at Easterton, beyond Market Lavington, in Wiltshire. The house looks out upon the lofty range of Downs that formed a portion of the site of the recent military manoeuvres, and is not far from Stonehenge.

Here the veteran has exhibited so much of the old Adam, that having built himself a useful greenhouse, containing now Tomatoes and Fuchsias, he has grown some noble specimen Fuchsias, as was his wont in days gone by. Fine plants, such as we never see in London, columnar pyramids of from 7 to 8 feet in height in the best growers, and dwarfier and denser in other growers. With one exception—a charming and floriferous variety, Mrs. Rundle, soft red—all the varieties are of Mr. Lye's raising. All have first-rate habits, are wonderfully free bloomers, and have the desirable habit of bearing transit to and from exhibitions well. This is a feature the old exhibitor has long aimed to secure. The leading seedling varieties, not yet in commerce, are Masterpiece and Brilliant, reds; White Queen, Lye's Fancy, Excellence, Amy Lye, and Bridesmaid whites. Splendid bedders and marvellous bloomers are Coral Bedder and Lye's Marvellous, both flowering so profusely as to be fairly surprising.—A. D.

(To be continued.)

A GREAT TOMATO TRIAL AT READING.

ON my way home from Shrewsbury I was taken, at my special desire, up to the Messrs. Sutton & Sons' well-known seed farm at Reading to see a great trial of Tomatoes in the open air. It was a distinct privilege thus to see what was there presented, for it was without exception the finest and most perfect, as well as extensive, trial of these interesting plants in the open air I, or perhaps anyone else, has seen. There were on the ground first eighty-two reputed varieties, represented by 210 rows of ten plants in a row, and therefore a total of 2100 plants altogether. With one or two exceptions, where the plant habit was dwarfer, every plant had been stopped at 3½ feet from the ground. The rows were 3 feet apart, and the plants in the rows about 14 inches asunder.

Every plant was kept to a single stem, and was supported by a stout stake. Generally the soil was exceedingly dry, as little or no water had been given, and there was not a vestige of mulch. In a remarkable degree the trial evidenced the appreciation the Tomato has for comparative aridity, both of soil and atmosphere, for no plants anywhere could have been more healthy, have looked better, or have carried heavier crops. Indeed the cropping throughout was a marvellous feature. The lower leaves having been removed, it was possible to see the masses of fruit brilliant in scarlet or yellow colouring, in a way I had never previously seen, and it occurred to me that those who wished to introduce novelties in bedding effects might do worse than to employ some of these brilliant coloured and heavy fruited Tomatoes, as they were here remarkably effective.

Now the trial demonstrated fully that during such seasons as the present there are few varieties that will not do pretty well outdoors under the form of culture given at Reading. But the Messrs. Sutton & Sons have been labouring specially to obtain for outdoor culture precocious and heavy cropping varieties, particularly for market purposes, and these varieties are now universally grown in this way. It may be desirable to mention that the seeds of every variety were sown in warmth on the 20th of February, and the plants, then well rooted in 5-inch pots, put out where grown during the first week in June, even then a rather cold time.

Laxton's Open Air is the first to notice, fairly well fruited, and that is followed by the firm's Earliest of All, admittedly the best cropper. This was carrying great clusters of fully ripe fruit. Magnum Bonum is of the same type, two or three days later in ripening, but a heavier cropper, for both fruits and trusses are larger. This is one of the very best outdoor varieties, especially for market purposes. This is followed by the old Large Red, or Powell's Early, a very good stock, but not up to the character of the preceding. None others seem to exhibit such irregular fruits as this old variety does.

Vesuvius has rather smoother fruits than those named, crop very heavy, and rather higher up the stems. Peerless has quite distinct dark foliage, and carries medium sized smooth fruits on quite long racemes, a heavy cropper, and valuable for any form of culture. Princess of Wales has fruits rather larger, very round and handsome, produced freely in large clusters. Abundance is well named, for it is a heavy cropper, fruits are of medium size and handsome, as also rich in colour. It is a trifle taller than most other varieties; one of the very best. The well-known Conference is here, but does not carry a heavy crop. A seedling from Best of All is found, whilst resembling that good variety, to ripen its fruits rather earlier.

Main Crop is also a huge cropper. The fruits are of good size, borne in great clusters, and fully justifies the varietal name. Close by is a row of this variety from seed saved from the plant grafted on the Victoria Potato in 1895, which fruiting seed was saved and sown the following year, and the present plants were, of course, the third season's offspring. Yet there is still seen the same marked divergence produced the first year of growth, for the plants are rather dwarfer, fruits a trifle smaller, produced in marvellous quantity, and ripening rather earlier. An unnamed and most distinct variety is one carrying huge clusters of fruits, deep red in colour, and about the size of small oval Plums. There were from forty to fifty ripe and green fruits on a single cluster, the crop being a marvellous one.

Close by was the old Pear shaped, but it does not crop like the preceding one. Suttons' Cluster is well named, as the rich red handsome fruit of medium size are thickly borne on racemes 10 inches long. Sutton's Red Dessert is a variety that is widely grown. The fruits are smallish, oval in shape, borne in great profusion, and give the best flavour found in any red variety. The old Chiswick Red, or King Humbert, is here also; so also are such old varieties as Hathaway's Excelsior and Vick's Criterion; but these come in cropping and earliness much below newer varieties. Of varieties generally grown under glass, there are yet here fruiting very finely Sutton's Eclipse, one of the finest of the Perfection type; Al, the fruits Apple shaped and very solid; Frogmore Selected, Polegate, Duke of York, and not least Sutton's Best of All, a first-rate stock for house work. The Mikado is an old American stock, and has little merit.

Tender and True is a fine product from the Red Peach, that variety being greatly improved. It is essentially a house variety. Peachblow is of this character also. Sunbeam and Golden Nugget are two of the finest flavoured yellows for dessert purposes. Both fruit superbly outdoors, the latter particularly so. Prince of Wales is a rich yellow fruited variety, and Golden Perfection has fruits of a pale straw yellow. Gold-n-Queen is another yellow variety, and all three ripen fruits admirably outdoors. Golden Jubilee is here so late that hardly a fruit is ripe. There are many others besides those mentioned, but those named are

the best. The firm is to be congratulated not only in having thus afforded such a splendid outdoor trial, but also in having furnished so many fine and remarkable cropping varieties.—K.

LIVERPOOL NOTES.

PRUNUS PISSARDI.

PEOPLE who can plant extensively, and who do not as yet know this handsome ornamental tree, would do well to bear it in mind, for given a suitable position it will shine most conspicuously in the forefront of any plantation. Not that I would recommend it particularly for its perfect or compact habit of growth, as that is somewhat peculiar, but there is no mistaking those glossy black twigs and the intense reddish crimson large oval leaves, especially when seen from a distance. In a summer like the one which is all too soon departing, the colouration has been perfect, the sunlight bringing out the tints in a manner not readily forgotten.

APPLE MILECROSS.

This is an Irish Apple which originated in the grounds attached to Messrs. Alex. Dickson & Sons, and is of great excellence. Having, in company with a gardening friend, had an opportunity of inspecting some of the finest varieties under cultivation, we were taken to see the original, and found it in better condition (if possible) than the younger trees, which is saying a good deal. Somewhat straggling in growth the shoots were "roped" with fruit, and props could have been advantageously requisitioned. A large conical shaped green fruit, with a flush of colour on the sunny side, we put it down as a fine culinary variety, and began to have doubts when told that it was an excellent dessert variety also, and would command the best price in the Irish market. After sampling it we came to the conclusion that we had got good quality, and more important still, quantity with it. Its condition is sound from now over Christmas.

CATTLEYA HARRISONIÆ.

From an importation of plants of this variety we have had a long succession of flower, such as we could scarcely have obtained from any other. The first flowers opened early in July, and have been continuous up to the present, with prospects of yet another two or three weeks' display. It is almost of a shade of colour by itself, and ladies take an especial interest in it on account of the beautiful soft tints of rose which are so often apparent amongst imported plants. There is also much variation in the formation of the flowers, which are freely produced if the plants are kept in a stove or intermediate temperature and are freely supplied with water during the summer months. The variety *violacea* is very fine, the large flowers, with lemon tipped lip, being quite elegant. If kept in a cooler temperature when in flower the flowers will last for several weeks. As a buttonhole flower it will hold its own against all comers.

SPIRÆA ANTHONY WATERER.

I first made the acquaintance of this richly coloured *Spiræa* at the Manchester Show a few seasons back, and felt at the time it was destined to take a foremost place in collections of hardy plants. It is one of those good things that will repay thorough cultivation, some loam, leaf mould, sand, and a little decayed manure making a compost that will give abundance of fine foliage, as well as a profusion of flowers. As an August and early September variety it will take high rank, and only requires to be better known to be largely cultivated.

ROBY MOUNT.

Although not in the ordinary sense of the word an extensive estate, this is one of those beautiful suburban residences with which Liverpool abounds. Its owner, John Farrington, Esq., is a model employer, delighting in his garden (so ably presided over by Mr. T. Eaton) and entering fully into the delights which it affords to Mrs. Farrington and family, who are ever ready to do all in their power for the good and welfare of the parish, and particularly are the allotment holders indebted to them for the handsome prize given each season.

Some years ago, when Blackberry culture was only developing, I spoke of a plant of the old common sort planted against the railway embankment wall, and from which a few quarts of fruit had been gathered. Encouraged by success the Parsley-leaved was introduced, but in point of quality and quantity it will not hold its own. Now the plants occupy a space of 80 feet, and since August Bank Holiday forty-five quarts of the finest flavoured fruit has been gathered, and judging from the huge bunches of ripening fruit, one would almost fancy as many more will yet be gathered.

In the vineries the last of the good Hamburgs were just being cut. Muscats were richly coloured and fine in berry, but although not a large house the one occupied by Lady Downe's was perfect. Beautiful in bunch, berry, and colour, they were worthy of the highest possible praise. The plant house was rich with flowering plants of Begonias, Fuchsias, Zonal "Geraniums," and Petunias, the front stage being occupied with capital Tomatoes in pots. In the stove *Cattleya aurea*, an odd *Cattleya labiata*, and *Dendrobium phalaenopsis* were in bloom, with *labiata* sheathing in abundance. Crotons and other foliage plants gave great promise. A pretty fernery and a cool Orchid house were not the least interesting, and Peach houses indicated good culture.

The vegetable quarters were well filled with every requisite, and the pleasure grounds were kept in perfect order, herbaceous plants being evidently a special feature. Chrysanthemums promise well, and everything is more than creditable to Mr. Eaton's able management.—R. P. R.

PINCHING FRUIT TREES.

In support of my opinion upon pinching fruit trees, I will first say the pinching operation must at all times be worked in combination with other sound practices. In no other way will it give effect in favour of fruit bud production. The first and most important consideration is the tree's equilibrium. And we must pinch according to the poise of the tree; this will, as far as pinching is concerned, help to form a good foundation. I discard any idea that pinching will tend to bring trees into an unfruitful condition. This is impossible; and if pinching is not carried out intelligently and in association with appropriate management of the root and branches, it is the best to leave pinching alone.

And now in regard to fruit bud formation. This, as I have indicated, depends upon the balance, which must be as near equal as possible between the roots and branches, one of which is a complement of the other, and all agents applied artificially must work in harmony with that essential. This will reduce the necessity of pinching to a minimum. My opinion is still the same as given on page 48, July 20th, that a check to the sap will cause fruit buds to appear. But I wish it to be understood that these buds will take four years to develop into blossom. I mean the buds which are caused by pinching. These buds are not upon the current year's growth, but upon the previous year's shoot, still both growths are upon the same spur. The bud at the end of the current year's growth will the year after pinching again break into growth, and it is upon that year's growth which I expect to see blossom in two years' time. The buds caused by pinching are in a different stage to those upon the current year's growth. The latter are greatly developed before pinching takes place, but those caused by pinching will require another season or two to advance so that the eye can perceive them. I never knew these buds to form on non-pinched trees, still they might do so.

My opinion is still that if the sap is checked so as to cause a circular motion round the incipient blossom buds that a full fruit bud will form, but it is not clearly visible as such until two years after pinching of the shoot has taken place. The two basal buds on the current year's growth will result in blossom provided the pinching is done in such a way as to prevent a second growth taking place from the shoot pinched. I intend on a future occasion to try and reach the equilibrium of Mr. Geo. Picker's question on page 317, April 20th, for, if I mistake not, the question is not yet answered.

I now enclose a pencil sketch, to help me to explain my opinion. I hope you will be able to reproduce it. I know it will make your able artist smile. I sketched it from a branch of a Pitmaston Duchess Pear tree, which I have pinched twice. No. 1, 2, and 3 buds are the same age, fifteen months old; but No. 1 bud will not blossom until its third year, while No. 2 and 3 will blossom at two years of age.

No. 4, 5, and 6 are upon the current year's wood, which I pinched in July last, just above No. 6 bud. In two years' time No. 4 and 5 buds will blossom, and the same year No. 6 bud will break into growth. No. 7, 8, and 9 buds are caused by a check of sap, brought about by pinching; they are fifteen months old, and will blossom at four years of age. No. 10 is a leafstalk (I hope my opposing friends will believe that, if nothing else), and No. 11 a leaf. Between the figures 7 and 8 will be seen the waved lines, caused by circular motion of the diverted sap after pinching. No. 12 is the point at which I pinched fifteen months ago, and it is at the base of this point that I find the buds to break through the bark, as shown at No. 7, 8, and 9. I wonder if Mr. Dunkin still thinks me a bold man. I am obliged by your allowing me to explain through your columns my opinions on pinching.—H. MITCHELL, *Druidstone*.

[We congratulate our correspondent on the excellence of his sketch. The artist's "smile" would be of satisfaction, that he had such a clear portrayal of the subject before him for reproduction.]

NOTES ON FIGS.

EARLY FORCED TREES IN POTS.—As it is not advisable to increase the pot room, a few inches of soil may be removed from the base of each ball, cutting back the roots, also reduce the ball a little at the side, so as to provide room for fresh compost, and remove the loose surface soil, cutting off any straggling roots. The drainage must be perfect, using a compost of fibrous loam three parts, decayed manure one part, and old mortar rubbish pounded one part, thoroughly incorporated, and laid under cover a few weeks previous to potting, if necessary, to become moderately dry. Make the whole very firm. Afford a good watering, and place the trees where they can have plenty of air with shelter from heavy rains and snow.

Trees in large pots—say, 18 inches, that have been stood on brick pedestals to prevent their sinking with the fermenting material, require different treatment. In their case, every particle of the old Oak, Beech, or Spanish Chestnut leaves, which are the most durable, should be removed from the bed, and the surface dressings also be picked from amongst the roots with a hand fork, shortening the strongest roots. The

drainage being attended to, the trees are to be placed in position on the loose brick pedestals, and the soil surface dressed with the compost named firmly rammed into the pots. Supply water to settle the soil, and after this keep the house cool, dry, and well ventilated until the time of starting in November or December. This method is preferable to repotting annually, as the trees are less likely to cast their first crop of fruit, which is the most important, and it is not advisable to disturb trees in 18 or 20 inch pots at the roots more than can be helped.

Trees that are not in as large pots as desired, or when it is thought advisable to increase the root space, may be given a liberal shift, the sides of the ball being loosened with a hand fork, and any straggling roots cut back, also the matted roots in the drainage. Provide good drainage, using the same kind of compost for potting as before advised, and ram it into the pots as hard as the ball, this being moistened previously.

SUCCESSION HOUSES.—The trees now ripening second crop Fgs must be gradually kept drier as the days shorten, a little fire heat being necessary in dull weather to admit a free circulation of air and prevent damp, for moisture settling on the fruit causes it to fall an easy prey to fungi, which cause decay. Particular attention must be given to the exposure of the wood to the full influence of sun and air, removing all useless growth, thinning where the shoots are too close, and allowing the



FIG. 55.
FRUIT BUD FORMATION.

fruits to stand well up or cut to the glass. As already mentioned, the supplies of water should be diminished, but not so as to cause the foliage to become crisp, and it may be withheld from borders that have been well watered and mulched up to the middle of this month; the main point is to get the wood well ripened, especially at the points of the shoots.

OVER-LUXURIANT TREES.—In rich borders and the root space deep and extensive, Fig trees are apt to become too strong for fruit bearing, and in that case preparation should be made for lifting as soon as the leaves turn yellow. Fruitless trees must have a trench taken out about one-third the distance from the stem the branches extend, cutting all the roots. This will check the tendency to late growth, and concentrate the forces on the ripening of the wood. In other cases the trees should be attended to as soon as the crop is gathered, lifting them with care, cutting back all long roots, retaining the fibrous only.

Good drainage is necessary. A 3-inch drain with proper fall and outlet will be the best, and a foot thickness of brickbats with a 3-inch layer of old mortar rubbish over will provide the first. A border of 4 to 6 feet width is much better than a wide one, and 18 inches to 2 feet depth of soil ample. What is wanted is firm, sweet, calcareous soil that will admit of the percolation of water and air through, and retain the manurial elements essential to the production of fine fruit. Good turfy loam four parts, and one part each of old mortar rubbish and road scrapings form a suitable and durable border, incorporating well. Place the compost together firmly, so as to insure a sturdy, short-jointed growth. Spread out the tree roots evenly, work in the soil amongst them, and make it firm, placing them in layers as they rise, and keeping them well up, not covering the topmost more than 2 or 3 inches. The soil must be moist when used, but it ought not to be wet. Give a moderate watering, and keep cool and dry.—GROWER.

EXCELLENCE IN MELONS.

ANTICIPATING that the points raised by your correspondent, "W. S.," will lead to a discussion, I think there are many things we may consider, such as judging by appearance or by flavour, classification, and the selection of varieties. There has long been different opinions as to the most desirable way in which Melons should be judged. I think the standard of excellence set up by the R.H.S. will be generally acceptable, and will be the means of preventing the small scrubby specimens from defeating the handsomer ones, which at any rate show good cultivation. Size alone regardless of flavour, and flavour alone regardless of size and appearance, are not sufficient to indicate a standard of excellence. There should, I think, be a combination of both.

That the flavour test alone is wrong I am, and no doubt others are, firmly convinced; the wretched specimens counted on to win by some exhibitors are generally produced from hard puny growths near the base of the stem, and naturally take a long time to develop, because of the smaller amount of sap supplied to them, and are often more sugary than those produced upon the laterals higher up on the plant. There are, however, many who would not care to demonstrate their knowledge of Melon culture by exhibiting.

I maintain that good cultivation is productive of good flavour, that is if first-class varieties are grown, but I do not believe in appearance only, as I fear if Melons were judged simply from appearance there would be the introduction of showy sorts to meet the case with little regard for flavour. As an example take Conqueror, than which there are few more attractive varieties. It is of average size, shapely, rind of a deep orange colour, beautifully netted, and possessing a strong aroma, but the flavour of it is most inferior, and again there are others of tempting appearance the flavour of which is decidedly nasty.

Neither is weight alone of any importance. I have invariably found medium-sized fruit the best flavoured, and generally netted more thickly, whilst for the table far superior in appearance to large heavy fruit. Scent is also misleading, it being no indication whatever of good flavour. Thin-fleshed fruits prematurely ripened are often more highly scented than solid, well-finished fruit.

Classification also requires attention. At present there are but two recognised classes, green and scarlet fleshed, which makes it difficult for judges in making awards to adhere to schedules distinctly specifying green flesh. White-fleshed varieties, when shown with green, are often out of the running, though possessing exceptional merit. This is very disappointing to those who might have won had they been properly classed. Of course it is useless to blame the judges when making awards under such conditions, as they are obliged to follow the wording of the schedule. To obviate this, would it not be better to make three distinct classes, or to specify green or white fleshed instead of green alone?

The selection of varieties should be carefully made. Some growers still stick to the older sorts, but they are not (with some exceptions) equal to the later introductions. To obtain the F.C.C. or an award of merit for a new variety is not an easy matter. The variety must be of sterling merit to gain such a distinction against the number of varieties already in the market, so that it is obvious that a selection of tolerably recent date will be a gain to the table and a great advantage to the exhibitor.—H. P., *The Knoll, Wimborne.*

THE complaint that ill-flavoured Melons at shows predominate has become an annual one. I hold a firm conviction that Melons should be judged by flavour, and not by appearance, as if the latter were to be the rule we should soon have varieties producing fruit 10 lbs. and 12 lbs. in weight. It is generally admitted that a Melon should never go to the table more than once, as they deteriorate in flavour when cut and allowed to stand. After all, what can be a truer test than the flavour itself? Melons are grown to be eaten, not merely to be looked at.

"W. S." says, on page 224, "Many Melons are condemned at the show simply because they are either unripe or over-ripe." Could a better reason be advanced for condemnation, I would ask? If more really good flavoured Melons were placed before the public than is the case, we should hear less of the system of judging them being wrong.

Gardeners are too much afraid to supply their Melon plants with root moisture sufficient to enable them to perform their natural functions. Directly the fruit exhibits signs of colour or even netting they withhold moisture from the roots under the impression that much will cause the fruit to split or induce canker of the stem. Sufficient nourishment is required by the roots, coupled with an ample supply of air during the ripening process to give flavour to any Melon. Too often when the ripening and flavour test are to be put on trial the foliage is overrun with red spider and thus debilitated. In Grape culture weakened foliage owing to the presence of red spider is fatal to the colouring of the berries, and a loss of flavour also is sure to follow. How much do Grapes differ from Melons in this respect, I would ask?

Another mistake, and a common one, too, is that of growing the plants in soil lacking any manurial property. Loam, as it is termed, is the only ingredient employed, which, when taken from a roadside, ill-used pasture, or "down" land, is devoid of all nourishment that well-cultivated grass would give. How, then, can such a compost give flavour to Melons? Many gardeners think when they see their Melon plants putting out extra strong leaves they are growing too rampant, and fear the results will be poor. That is not so, if the soil is made quite solid, as it should be. Firm soil gives texture to the leaves, and that is only a form of maturity, gradual though it may be. The best crops of Melons I

ever had, both for quantity and quality, were grown with loam and a plentiful addition of freshly gathered cow manure. As much as two mulchings of the latter were employed as the roots showed through the soil. In addition to this liquid manure was freely employed when the fruit was the size of a tennis ball.

Let Melon growers try this plan, giving their plants a fair amount of space and light, so that the growth will be quite firm as it progresses, and then see if better results are not obtained. Another mistake, and one which is often fatal, is that of putting the plants too low in the soil. Canker easily affects that portion of the stem immediately above the seed leaves when these are buried in the soil. There is no gain by deep planting, even if there is no decay of stem.—E. M.

A DAY WITH A SOMERSET FARMER FRUIT GROWER.

ONE of the fruit-growing districts in Somerset is Martock. Two well-known names in the district are those of Mr. Scott, cider maker, of Kingsbury; and Mr. J. T. Hebditch, farmer and fruit grower, of New Cross, South Petherton. I have had the pleasure of visiting Mr. Hebditch on several occasions, each one being more interesting than its predecessor. Martock Station is on the Durston and Yeovil branch of the G.W.R., whither I journeyed in response to an invitation a week or two since. It was before we had the welcome rain after the scorching summer, and everything was looking brown and dried up, almost the only green things being the Willows, grown in large quantities on Sedgemoor. Willow weaving is one of the principal industries in Langport, a small town near Sedgemoor, and the Willow beds, with their healthy waving young canes, were veritable oases in the desert.

From Martock to New Cross is about three miles; a nice pleasant drive. Apples are grown largely in the district, chiefly for cider making, but many growers are turning their attention more and more to producing good market fruit. Some say cider making pays the better of the two, while others affirm that they get quicker returns from their market fruit; but nearly all agree that both industries pay well when the work is carried out in a proper manner. This year I hope both will be profitable, as there are good crops of fruit round here.

When I reached New Cross Mr. Hebditch was at another part of the farm, and had left word that his foreman, Mr. Somers, would show me anything and everything I wanted to see. It was a sweltering day, and Mr. Somers was just finishing budding, and, although sheltered by a wide "straw brimmer," he confessed it was hot work. "What should you like to see first?" was his question. "Some maidens, two-year-olds, three-year-olds, and some in bearing, and then the pyramids." We had not far to go, and soon I was busy taking photos (for lantern slides for the winter), and hindering a busy man as much as I dared. "The maidens look well, Mr. Somers." "Yes," he replied, "and we hadn't many 'misses.'" He was right, too, for the blanks were rare indeed in the long straight rows. Walking up and down the rows, Mr. Somers was able to point out the peculiarities in the growth of each variety. Next to the maidens were the two-year-olds, nearly all of the latter being grown for standards.

The three-year-olds are some of them bearing fruit as "feathered" standards. The "feathers" are left to swell the stems, and will be removed before the trees are lifted for planting. Very sturdy, in the best of health, and the wood well ripened, they will if treated properly, make fine trees, and, in my opinion, do better than trees several years older.

A drive divides the nursery from a plantation of dwarf and pyramid trees covering about 7 acres. The trees are of various ages, as the largest were procured several years ago, and the others propagated at home and planted from time to time till the 7 acres are now filled with as good a selection as one would wish to see. Some of the earliest had been cleared, the Suffields, Grosvenors, and Ecklinvilles being all gone. Others are gathered as they ripen, several baskets of the Queen, very fine fruit, going to the packing-room for immediate despatch. With so many it is difficult to make favourites, but two were prominent, Cellini and Cox's Orange, both heavily laden. Here Mr. Hebditch joined us, and, after discussing the good qualities of the majority and the rather indifferent qualities of a few varieties, we adjourned for lunch, which was a very pleasant diversion to at least one of our party.

"Shall we go to the orchards now?" said Mr. Hebditch. "Anywhere you like," is the reply, so we pass through a well stocked rick-yard and across a field to an orchard of thriving young trees just coming into bearing. Planted rather closely together in the rows, the trees will soon begin to touch each other. The "supers" will then be removed, giving the "permanents" the whole of the room. They were planted in this way intentionally. Here again gathering was in progress. A "tip" to many fruit growers is one mentioned in passing by Mr. Hebditch. "When gathering commences I make my men and boys thin the fruit by taking the largest first, then the smaller fruits grow wonderfully in the course of a week or two."

There are something like forty acres, chiefly orchards, under fruit. Apples being about nine-tenths of the whole. Never have I seen better crops of Blenheim's, the trees being much healthier than we usually see this variety. Another favourite and heavy cropper is the good old Tom Putt. The other orchards were visited in turn, as well as several plantations. The trees in the latter were bought several years since, and are fine healthy specimens. Heavy crops are apparent of Cox's, Blenheim's, Cellinis, Peasgoods, and many others. We have next a glance at

the packing department, where those in charge were busy getting ready hampers of Apples for despatch by waggon to Martock station. Here as elsewhere on the farm things are well done, the fruit being graded and well and securely packed.

Quite a large business is carried on by Mr. and Mrs. Hebditch [in supplying hampers of farm house produce. Fruits, both for dessert and cooking, as well as jams and jellies of all kinds, table poultry, eggs, honey, butter, cheese, cream, and whole wheatmeal are packed in great quantities. Nearly all the Apples are disposed of in this way, and at a good price, only the commonest or poorest fruit being sold in bulk for jam, and some for cider. Ample storage room is afforded in the cellars and out-houses, so that the supply is extended as far as possible into the winter.

Anyone interested in farming would enjoy a visit to New Cross quite as much or more than I did, as Mr. Hebditch is as up-to-date with his farming as his fruit-growing. The soil is not an ideal one, being a yellow clay, or something nearly approaching it, bad to work in either wet or very dry weather. Swedes looked bad, but Parsnips as a field crop were looking splendid, their long tap-roots finding moisture down below. Some Flax is also grown.

A drive in the cool of the evening took me back to my station, the driver calling on the way to feed some cattle with cake. Owing to lack of keep feeding had to be done almost as much as in the winter. I hope to see Mr. Hebditch with a collection of Apples at one of the R.H.S. shows, and I think he ought to become a F.R.H.S.—JOHN ETTLE, *Wotton-super-Mare*.

ABOUT ANNUALS.

I BEGIN with a query. Do we, gardeners generally, but more especially gardeners of private establishments, use annuals sufficiently to get out of them all that they can give us, to break up the too commonly conventional lines of our flower garden decoration, or furnish us with flowers useful for cutting to supply the present day demand for cut flowers? I answer most decidedly, No!

Very well then, there comes that blunt monosyllabic query, Why? After this you put yourself in a corner and demand an answer, and you put on your puzzle-solving cap, or you spread yourself out, put the pen down, your elbows on the table, your fingers in your hair (if you have any left), and you think it out; and dear me! what a very small mouse comes out after this mountainous labour, in the shape of an answer, which nine times out of ten resolves itself into something like this, "Oh, well, you see, there's plenty of other things—and perhaps our people would not care for them, and they are a lot of trouble, and they last so short a time, and they are not popular, nobody grows them much, you know," &c. We all know the poverty of the reasons why they are not grown, because we are most of us sinners in the matter. I confess to being one of the greatest.

This was brought home to me with force, and was a powerful eye opener when I was at Wem. As I said in my visiting note to Mr. Eckford's nurseries (page 234), the heads of the firm were going through their lines of annuals, correcting names, noting reliabilities and peculiarities, and originalities, and whilst we waited I got my note-book and put down the names of a few that struck me, either for some excellence in form or colour, or other adaptability or singularity. I can easily fancy a smile of superiority coming over the face of some of my readers when they get to the names, and a "Well, of all things, why these are as old as the hills!" So they are, my friend, so they are; but, pointedly, do you grow them? "Oh! I sow a few sometimes in the kitchen garden, but I don't take much notice of them." Quite so, that settles it.

Well, these were a few of those which I noted in the middle of August last; some were over, of course, but these were well in bloom, and looked like lasting for some time. *Linaria reticulata aurea*, *Eschscholtzia Mandarin*, orange and scarlet; *Arnebia cornuta*, yellow and black; *Zinnia Haageana*, *Yenidium calenduloides*, *Agrostemma cœli-rosa*, *Aster Shakespeare*, very dwarf, most interesting; *Brachycome iberidifolia*, blue; *Cuphea miniata*, and *Bartonia aurea*.

Just these few names jotted down in my note-book as we passed along the rows and rows of trial and experimental annuals. I give them merely as a suggestive inspiration to anyone who may desire to introduce something more into their flower garden in summer than the everlasting *Asters*, *Stocks*, *Salpiglossis*, *Scabious*, *Dianthus Heddewigii*, *Lavatera trimestris*, *Convolvulus minor*, *Clarkias*, and others, to supplement the, "As it was in the beginning, is now, and ever shall be," scarlet "*Geraniums*," yellow *Pyrethrum* or *Golden Feather*, *Petunias*, and all the other summer decorators of the flower garden which Mrs. Grundy, at many places, only allows at present to be grown there. Everyone admits and deplores (and some remedy it) the depressing monotony of this style of gardening.

In the more superior places we all know that a better state of things does now exist, for which we are largely indebted to the improved taste of the owners and their gardeners, stimulated by the excellent variety of flower bed decoration which the gardeners of the London parks have annually introduced into their floral arrangements, and which are an object lesson of inestimable value. But when all is said and done I still think that we might get an additional charm into our flower borders by judicious selections of some of the best hardy and half-hardy annuals which at present are left out of our arrangements. At least, I mean to do something in that way, on however small a scale. *Verb. sap.*—N. H. P.

NOTES FROM IRELAND.

WITH noiseless steps summer has left us, bequeathing a wealth of verdure and flowers to the not too welcome autumn. Rambling around the suburbs, *Dahlias*, both *Show* and *Cactus*, form a very conspicuous item, all the plants bearing many blooms. Of the two types, the latter is by far the more largely grown here. *Michaelmas Daisies*, and our ubiquitous friend the *Sunflower*, are heavily laden with blooms. In the houses *Cyclamen* and *Cinerarias*, whose utility is needless to remark, are in a forward condition; also *Bouvardias*, *Carnations* for winter use. *Chrysanthemums* are advancing. Everywhere one sees fine healthy plants, which give their admirers unbounded pleasure. On the 12th inst. the Council members of the Royal Horticultural Society held their usual monthly meeting. There was a goodly attendance of members present; Surgeon-General Beaumont occupied the presidential chair. The business before them could not be deemed heavy. After the minutes of the last meeting were read and duly signed, the Secretary (W. H. Hillyard, Esq.) submitted a report of the autumn Show, which was adopted without demur. The expenses for the same function were up for settlement; they totalled, including prizes, £105. The Council authorised cheques to be drawn. Judges for the forthcoming winter Show, which is to be held in the grounds of the Royal Dublin Society, Balls Bridge, were nominated, and referred to the next meeting for revision. Several new members were elected.

On September 30th the members and friends of the Naturalist Club will take their usual monthly outing. This time their steps lead to Dunran demesne, situated in Greystones, where, with the help of local cars, the party will indulge their botanical as well as entomological tastes. The grounds are the property of B. T. Patterson, Esq., C.E. Through the kindness of Mr. Henderson, sen., I availed myself of the opportunity to visit his well known nursery at Oakley Park, Blackrock; specially to note his superb single *Begonias*. They occupy a house, which measures about 75 feet by 12 feet, and the plants are one mass of bloom. The plants are sturdy, with an erect flowering habit.—A. O'NEILL.

THE YOUNG GARDENERS' DOMAIN.

KALOSANTHES.

My article on *Kalosantes*, page 176, in the *Journal of Horticulture* for August 24th, may be misunderstood by many cultivators of this plant. I recommended that the plants should be exposed to all the elements except rain just prior to their coming into bloom, and I omitted to give the reasons why I advocated this procedure. It is because when fully exposed to sun and air the blooms come an intensely red colour, and if they are grown and flowered entirely under glass they are generally streaked with white, and have a somewhat washed-out appearance.—FOREMAN X.

SWEET PEAS.

FEW flowers are prettier than Sweet Peas when the plants are well grown. They are always useful for cut bloom, and also charming for decorative purposes. The earliest sowing can be made about the latter end of November, and prior to this the ground should be deeply dug, and when the time arrives a trench must be taken out the width of a spade, and about the same depth. Place a good supply of well decayed farmyard manure in it, make it firm, after which place a little soil on the top, so that when ready for the sowing the trench will be about 2 inches in depth. Sow the seeds thinly and as evenly as possible, covering them the depth of an inch with fine soil. If possible place some wire netting over the rows to prevent birds from disturbing the seeds. When the plants are about 1½ inch in height they should have a little soil placed between them, which will be helpful for their support and favour stronger growth. They will also require staking, for which sticks about 4 feet in height are very suitable. When the plants require water it should be given, as they will then bloom for a longer period. Sowings may be made at intervals up to March, and treated in the same way will prove very successful. A good method for early flowers is to make a sowing in small 48-pots, about nine seeds in each pot, and place them in a cool vinery until they have made stout little plants, after which they may be planted out in ground prepared as above described.—P. R.

THE HERBACEOUS CALCEOLARIA.

FOR conservatory or greenhouse decoration in early spring the *Calceolaria* can hardly be excelled. The flowers are not very valuable for cutting, but they well repay in other respects the little trouble experienced in growing them.

In sowing the seed it is essential to distribute it thinly, otherwise the young plants become drawn and a bad start is made. Should thinning prove necessary it must be done with care and judgment, as we often find the small and more delicate-looking seedlings give the best results, both in habit and the colour of the flowers. The compost I have found most suitable is one of yellow loam three parts, moderately decayed leaf mould one part, and a sprinkling of silver sand; or, in preference to the latter, if obtainable, a little road sweepings.

The seed-pans should be well drained, and filled to within an inch of the top with the finely sifted compost, pressed fairly firm, and watered before sowing. After the seeds have been sown a little of the fine soil must be sprinkled over them, and a sheet of shaded glass put over the pan to prevent rapid evaporation. A cold frame, where the receptacles can be shaded from the sun, will suit until the seeds have germinated.

As soon as the seedlings appear the covering glass should be removed, and the pan be raised as near the light as possible. When the plants are

large enough to handle they may be pricked off into other pans, allowing 1½ inch space between each plant, and more air be given them. In a short time they will be ready to be potted into small 60-pots. Each plant must be taken from the pan with as little disturbance of the roots as possible, and made firm in the pots. When the young plants are rooted they should be shifted into larger pots according to their vigour. I think 48's large enough for them to remain in through the winter. But as soon as the days lengthen they may be shifted again. Very little water is needed during the winter months, but abundance of air must be admitted on all favourable occasions.

When the plants are in their flowering pots a capital place for them is on a shelf, as near the glass as possible, in an airy greenhouse. Liquid manure should be given occasionally as soon as the pots are filled with roots. A neat stake should support each flower-spike, as the stems are so liable to break off or to rock about, which gives the plants an unsightly appearance.

Green fly is the worst enemy that attacks the Calceolarias, and if once allowed to get established it is a very difficult matter to thoroughly eradicate the insects. The leaves have a tendency to curl inwards, and this serves as a protection to the pests. Therefore it is needful we should take precautions and guard against this contingency. It is a good plan to fumigate the plants lightly once a week.—*ASPIRANT*.

[Our promising "Aspirant" omits the time he finds best for sowing. Young writers should try and remember essential points, no matter how simple these may appear to be.]



HARDY FRUIT GARDEN.

Lifting Fruit Trees.—Young stone fruit trees after a few years' growth often become so luxuriant that it is desirable to curtail their vigour by checking root growth. This may be done by partial root-pruning, or complete lifting and replanting. Trees with a tendency to make late growth ought to be carefully checked, in order that the wood may be fully ripened, which the check of lifting will effect. It can only be successfully carried out in the case of trees having a fair quantity of fibrous roots. Those which have only long and strong roots must not be subjected to severe lifting—in fact, they are better not lifted at all, but the long roots may be shortened, with the effect perhaps of inducing the production of much needed fibres. Young fruit trees that are readily portable are easily lifted and replanted.

Peaches and Nectarines among stone fruits are the most important, and ought not to be neglected when it is decided that the trees need it. Take out a trench according to the size of the trees, 18 inches to 3 feet from the stem. Throw the soil on one side, and sever any long roots that are met with. When well below the bulk of the roots work underneath, and gradually raise the trees until clear of the soil. Cut off all strong roots, but preserve the fibrous. The strong ones must be cut smoothly, and not left with jagged ends. If there is occasion to leave the work after the roots are exposed they must be covered up. Raise any roots which are descending into a position near the surface, working in some good soil about them, compressing the whole firmly. Give water if the soil is not moist, and mulch over the surface with short manure. Do not secure the trees permanently to the wall for some time.

Root-pruning.—Large and well-established trees are not amenable to lifting, but any trees that are too luxuriant to bear fruits freely may be root-pruned. If they are not subjected to severe root-pruning the work may be carried out now. The safest plan is to operate on one side only, leaving the other side for the following season; there is not then so much risk of over-checking the growth. A good trench should be taken out 3 or 4 feet away from stem. The strong roots which are met with in doing this must be cut, and those of a fibrous character preserved. Very strong thick roots may be found extending straight downwards, and these especially ought to be severed, partially undermining the ball of roots to reach them. Leave these roots with a smooth transverse cut, and strong more horizontally growing roots prune with a slanting upward cut. The trench ought to be filled in with a mixture consisting of good turfy loam and the old soil taken out, together with wood ashes and bonemeal inter-mixed. Fill in and make very firm, laying out the small and fibrous roots in a horizontal direction as near the surface as possible. It is an excellent plan to give a copious watering with a rose can, so as to wash the soil among the roots, filling up all interstices. Finish with a mulch of dry litter.

Nourishment for Fruit Trees.—Autumn and early winter are periods when manual assistance given to old and weakly trees is likely to prove of much service. The soil, being moist at this time, will retain food washed in by the autumn rains, or applied in the form of liquid manure. Ashes from a burned refuse heap may be spread over the roots of trees as far as they extend and lightly pointed in. They supply potash. Afterwards spread over a good mulching of decomposed organic manure, and, if available, pour on a liberal quantity of sewage, or drainings from the farmyard, diluted, if strong, with water. In addition to treating old and weakly specimens, any tree or bush in full bearing will be benefited by the application. The exceptions are trees or bushes already making

strong growth and not bearing proportionate crops, also young trees which can find sufficient food for their requirements in moist and fertile soil.

Raspberries and Currants like liberal feeding in autumn, as they are usually well furnished with fibrous roots near the surface, and the best manner of supplying them is to give good mulchings of rich manure from which the autumn rains will wash all soluble food into the soil.

Thinning out and Regulating Trees and Bushes.—Standard, half-standard, and open bush trees, also Gooseberry and Currant bushes, are very likely to have too many branches and growths retained. All these derive advantage from thinning out and regulating while the foliage is still present. Crossing and interlacing branches can be removed, and the crowded centres of trees opened out. Much superfluous wood may be removed from Gooseberry bushes, especially in the centres and near the soil, where the lower parts are hanging towards the ground.

Planting Raspberries.—Dwarf strong suckers may be planted if lifted carefully with some soil adhering to the roots. Prepare the soil both rich and deep for Raspberries, as they are gross feeders, and strong roots descend deeply, while tufts of fibrous roots spread near the surface. Water after planting, and spread a light mulch round. Where the soil has not been prepared for planting the latter operation may be deferred until the leaves fall, in the meantime trenching and liberally manuring the ground.

FRUIT FORCING.

Cucumbers.—The plants for winter fruiting, and grown on the "express" system, must be in their final quarters by the middle of October to insure a good supply at Christmas and onwards. Keep them near the glass to insure sturdy growth, not allowing them to become root-bound. If fermenting material be employed for bottom heat it must undergo a due course of preparation, and the heating apparatus also seen to and put in proper order. A bottom heat of 85° to 90° will be safe, but the latter temperature should not be exceeded, if from hot-water pipes a bottom heat of 80° to 85° is sufficient. Most growers for market dispense with bottom heat. Turfy loam of an open nature is best for Cucumbers. If there be a suspicion of eelworm bake it in an improvised oven formed of loose bricks and an iron plate, placing grass side on this, and when heated through so that the hand cannot be borne on the top side, it is cooked enough. The process will not injure the compost in the least degree, while it will certainly kill any contained eelworms and fungoid germs. A third of sweetened manure, that is, fermented, may be added to the turfy loam, with half a pound per cubic foot of a mixture of equal parts, by measure, of air-slaked chalk lime and fresh soot, mixing well.

Autumn Fruiters.—A healthy and vigorous growth must be maintained, and do not overcrop the plants. Afford weak tepid liquid manure once or twice a week as may be necessary. Add a little fresh soil duly warmed about once a fortnight to the ridges or hillocks. Maintain a night temperature of 65°, 70° to 75° by day from fire heat, and 80° to 90° from sun. Avoid a stagnant atmosphere by careful and moderate ventilation, but drying currents must be prevented, for they are very injurious. Be sparing in the use of water, especially on the foliage, keeping a genial condition of the atmosphere by damping the floor and walls in the morning and afternoon, and gradually reduce the atmospheric moisture as the days shorten and the natural heat declines. If aphides attack the plants fumigate on two or three consecutive evenings, for mildew, white fly, and red spider thinly coat the hot-water pipes with a cream of flowers of sulphur and skim milk.

Peaches and Nectarines.—Late Houses.—When the fruit has been gathered, as will be the case where there are midseason varieties, the next important object is to ripen the wood. This can be done by thinning unnecessary shoots, in addition to those that have borne fruit, the latter being cut out to a successional shoot at the base, and the former being thinned where overcrowded. In the case of very vigorous trees it may be necessary to accelerate the ripening of the wood by gentle fire heat, especially in dull weather, at the same time admitting air freely. Some of the late Peaches—as, for instance, Walburton Admirable, Golden Eagle, and Comet—will require gentle fire heat in cold localities to ripen them thoroughly. An occasional syringing will be necessary for trees from which the fruit has been gathered.

Unsatisfactory Trees.—Where the trees cast their buds, do not set the fruit well, or fail to stone and finish their crops satisfactorily, something is amiss either in the management or with the roots. Either the roots are too deep, or the soil is too rich or loose, unsuitable material, or imperfectly drained. Trees in an unsatisfactory condition should be wholly or partially lifted as soon as the wood is mature. If this be done whilst the trees are in leaf the house should be shaded before commencing operations, and the old border made evenly moist, but not wet. In removing the soil commence at the point most distant, and work towards the trees, and when it has been cleared away the exposed roots should be drawn aside, damped, and covered with mats whilst the drainage is being attended to. This should consist of 12 inches thickness of rubble, largest at the bottom and smallest at the top, and if a covering be placed on of old mortar rubbish, freed from all bits of wood, it will make all secure, and be a source of calcareous matter. A drain must be provided below the rubble to carry off all water, and it must have proper fall and outlet. Strong loam is the most suitable compost. If inclined to be light add a fourth of clay marl, as fine as possible, if very heavy add a fourth of road scrapings, and in any case a tenth of old mortar rubbish, taking care to remove laths and other pieces of wood.

A cartload of wood ashes or charred refuse may be added to every ten cartloads of the compost and 2 cwt. basic chender phosphate. The whole well incorporated should be put in the border firmly, and the roots, after-

having any fibreless portions shortened with a knife, must be spread out evenly over the bed, placing them in layers, and all within the top foot depth of the border, the topmost roots not being covered deeper than 3 inches. The border need not be more than 24 inches deep, and in no case wider than the width or height of the trellis. A good watering will be needed to settle the soil about the roots. The shading must remain on if the weather be bright, and afford ventilation by the top lights only, syringing the foliage lightly in the morning and afternoon until it is seen that the roots are working in the fresh soil, when the shading may be removed and the house opened. Trees so treated rarely cast their buds, the flowers set well; indeed, the operation of lifting is the only method of successfully treating trees in an unsatisfactory condition from root causes.

THE BEE-KEEPER.

RENDERING WAX.

ONE of the last, and at the same time the most unpleasant, operations in connection with bee-keeping is rendering wax. When the majority of bees were kept in straw skeps this was a formidable business in a large apiary. The modern frame hive has to a certain extent changed this, owing to the fact that many of the combs are used for several years without renewing them. How long a comb may be used without injury to the stock we are unable to say, as so much will depend upon circumstances. If a comb is utilised for storing honey and extracting purposes it may be used much longer than if placed in the brood nest, and young bees are being constantly raised in them. When tough old combs are retained in an apiary, it is necessary they should be clean and in good condition. We are convinced much harm is done by keeping worthless combs that have done duty in the brood chamber for many generations of young bees.

During the past season we have experimented with combs of various ages, to see if the wax deteriorated with age. It will probably come as a surprise to many who have not tested the matter to be told that combs which have been in use for several years had little wax left in them, what there was being dark in colour, and as it only averaged about 2 ozs. per standard frame it was not worth the trouble of extracting. There is such a vast difference between wax obtained from newly made combs, that it is an advantage to keep it separate. If during the season all cappings and pieces of comb of good colour are kept separate from combs, which from various causes may have become discoloured, a superior sample of wax will be obtained. Although the rendering of wax has hitherto been considered the most unsatisfactory part of bee management, we may now extract it without any mess and a minimum of trouble.

HOW IT SHOULD BE DONE.

Whatever form of extracting wax is decided on heat is a necessity. Many years ago we thought we had an ideal system of rendering wax when we placed all the combs in a bag which was sunk to the bottom of a large copper, and then boiled until all the wax was extracted and floated on the surface of the water. The fire was then drawn, and after the water had become cold the wax could be taken off the surface in a sheet. This was melted down and afterwards run into moulds. The disadvantage of this plan is that dirt from the combs also floats to the surface during the boiling process which spoils the sample of wax.

A solar extractor is preferred to any other, the one thing necessary is bright sunshine. It has the advantage, too, of being inexpensive; a large bell-glass answers the purpose admirably. Failing that we obtain four panes of glass and form a square box of them. A bowl is placed inside, several pieces of wire being previously strained over the top, over which a piece of tiffany is stretched. On the top of this and over the whole surface the capping or combs are placed. A sheet of glass is then put on the top, and should fit as closely as possible so that the heat cannot escape. This is stood in the direct rays of the sun, and in a few hours the combs will have melted, and the wax will be found at the bottom of the bowl in good condition, the refuse and dirt remaining on the tiffany. This operation may be repeated daily, the wax being afterwards melted and run into moulds.

From a solar extractor of this description we have this season obtained a superior sample of wax. We consider wax obtained on the above lines is of a better colour than can be obtained by any other means. It has the advantage, too, of keeping all scraps of combs and cappings up during the busy season when the sun is at its greatest power. As the sun is now losing its power daily, the same result may be obtained by placing the bowl in a warm oven, provided precisely the same care is exercised.

In making a comparison between the solar extractor and the latter plan, we may say that the wax obtained from the former system is brighter and better than when the oven is employed. Dark wax may always be used for making comb foundation.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

J. Cheal & Sons, Crawley.—*Testimonials of Landscape Gardening Department.*

W. Paul & Son, Waltham Cross.—*Roses.*

A. F. Upstone, Rotherham.—*Bulbs.*

E. Webb & Son, Wordsley.—*Seed Corn.*



• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Manuring Vegetable Ground (Scotland).—Land that has been manured and trenched in the previous autumn should be again manured, as vegetable crops require high cultivation, hence manuring every year is desirable to have full crops of first-class produce. Stable or farmyard manure at least half-decayed is most suitable. As your land still shows manure it must have been put on raw, and in that case it may not be advisable to apply another dressing this autumn. The grass mowings and other refuse, when reduced to mould, form a good dressing for such land, especially heavy, on account of the ashes, but have not much value for light soil—in fact, do harm.

Forcing Seakale for Market (S. J. W.).—To have the heads early forcing should commence as soon as the leaves have matured and fallen. For very early work this is not always waited for, but the leaves are broken off. This procedure, however, did not pay us in a trial, and it was found better to wait until the crowns were properly matured, starting the first batch at the beginning of November. The demand for produce is good in December onwards. About a month or six weeks are required for the growth of heads for cutting. It is important to have the "Kale" very stout, 6 to 8 inches in length, pure white, or with not more than pinkish tips to the stalks, so that half a dozen heads wrapped in blue paper show the tips in contrast, placing in a punnet, and securing with matting. Half the battle, or getting a good price for a suitable article, is in the making up, but of course only good Seakale is worth it. The crowns, extra strong, run about 12s. per 100, less, of course, for a large quantity, and the produce will be sixteen dozen punnets or baskets, bringing in our case from 6s. to 9s. per dozen, less expense of transit and salesman's commission. Some allowance must also be made for casualties in the crowns, for all do not grow equally well. The crowns are sometimes advertised in our columns, or an advertisement therein for sample and price would, perhaps, be better, otherwise write to the principal nursery or seedsmen asking for quotations. Lily White is the best for blanching, but the plant is rather tenderer, and also dearer than the common variety. The beds in the Mushroom house will answer for planting the crowns. It suffices that the soil be moderately rich, of medium texture, and moist. Place the stems about 6 inches apart with the soil, sinking them just level with the base of the crown, and making moderately firm about the rootstock. The forcing should be gradual, a temperature of 45° to 50° being high enough to commence with, and the forwarding heat should not be over 55° to have stout heads. Crowns require to be inserted fortnightly to keep up a constant supply. The structure must be kept dark in order to secure thorough blanching. Seakale pays for forcing, especially when the crowns are home grown and are of the first order for strength, these alone giving superior produce. Raising Seakale crowns from root cuttings is clearly illustrated in Wright's "Primer on Horticulture" (Macmillan), which you can obtain through a bookseller for a shilling.

Forcing Strawberries (Notice).—A selection should now be made of the plants for early use, taking those in the most forward condition as regards plumping the crowns and completing their growth. *La Grosse Sucrée*, *Royal Sovereign*, and *Vicomtesse Hélicart de Thury* are, all points considered, the best. The selected plants may remain outdoors until the approach of frost, and should then be placed well up to the glass in frames, only affording protection from heavy rains and frost, otherwise exposing fully or ventilating freely. The plants must not lack water, yet needless applications cause the soil to become sodden and sour. Any plants that appear in the latter condition should have the drainage examined. Where the crowns are numerous the small ones should be removed, with a wedge-like piece of hard wood, without injuring the leaves or central crown. This will concentrate all the vigour on the chief crown, and though there will be fewer trusses of bloom, there is no need to fear a deficiency of crop. The plants must have plenty of space for the full exposure of the foliage, which is essential to sturdy growth and plump well-developed crowns. Remove all runners and weeds as they appear.

The Nectarine Peach (G. R.).—The fruits you sent with the specimens of growth and particulars of the flowers rendered identification easy, and for your benefit and that of other readers we give an illustration (fig. 56) of the not very often seen Nectarine Peach. The fruit is large, and is remarkable for being terminated by a nipple, like *Tâton de Venus* and *A. Bec*. There is a little down on the skin. The skin is yellow, and with a bright mottled red on the side next the sun; the suture well

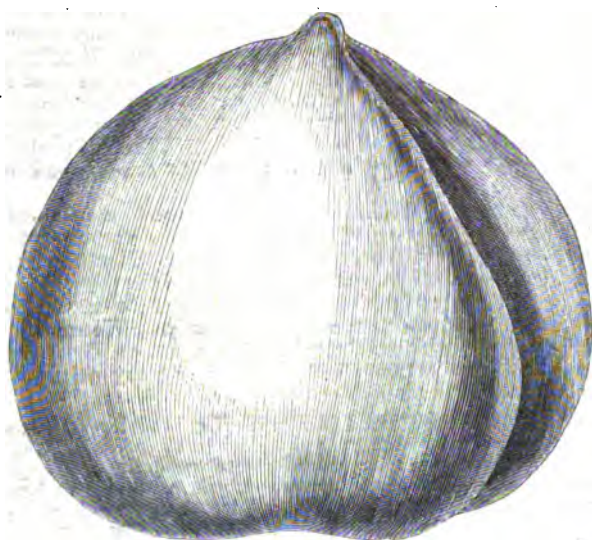


FIG. 56.—THE NECTARINE PEACH.

defined, particularly near the nipple. The flesh is semi-transparent with a brilliant red stain round the stone, from which it separates, leaving some strings behind it. It is melting, very richly flavoured, and with a fine racy smack. The stone has a tendency to split, and the kernel has a very mild bitter taste. It ripens about the middle of September. Flowers large; glands kidney-shaped. The variety was raised by Mr. Rivers from seed of a variety named *Grand Noir*, imported from Holland. Some growers find it of rather weakly habit out of doors.

Chrysanthemum Buds Bitten in the Centre (F.).—The buds of the varieties *G. J. Warren* and *Madame Carnot* have been carefully examined. No traces of any animal pests were found, and only one form of fungus, *Cylindrosporium Chrysanthemi*, which causes brownness or blackness and decay in the leaves, especially of young plants. We have not noticed it before in the flower buds unless also on the leaves, and those of the growths sent were perfectly innocent of the fungus, and this was only present in some, not all, of the flower buds. The appearance of the buds indicates their having the centres eaten out and destroyed by some animal pest, and accords with that of the *Chrysanthemum* bud mite, *Phytoptus Chrysanthemi*. This occurs most commonly in a dry season, being first noticed in 1898, and was figured in the *Journal of Horticulture* September 28th, page 291. The specimen then examined was from Scotland, the variety *Wm. Holmes*, and the time September 11th, the sprays being despatched on the 8th, the sender, "G. B. A.," saying, "these buds were taken early, and have remained in nearly the same state for about six weeks." Such data is valuable, as it indicates the period when the buds are liable to attack by the mite and the continuance of the infestation. It also affords guidance in determining the causes of similar affections, which we suspect has been the mite in your case. Though no mites were present in the buds, they may have eaten what they required and departed. The fungus, though a parasite, appears to have been only secondary in your case. As a preventive of both mites and fungus spraying with a solution of sulphide of potassium or liver of sulphur, $\frac{1}{2}$ oz. to 1½ gallon of water, just before and again when the buds appear, repeating at intervals of about ten days for a month, is the best we have tried. Buds such as those sent are beyond remedy, we are sorry to say, and we should burn them for destroying any germs and preventing further infestations.

Digging in the Remains of Bedding Plants (O. F.).—The old "Geraniums" and other summer flowers should not be dug into the ground to enrich it, as the woody portions will not decay soon enough, besides fostering various pests that may take a fancy to living plants. Clear the plants away to decay elsewhere, and give the beds or borders a dressing of well-decayed manure, if they need enriching; autumn is the best time to do it.

Cape Gooseberry (Idem).—The Cape Gooseberry (*Physalis peruviana*) is a greenhouse plant, and requires a light situation to fruit satisfactorily. It has, however, fruited this season outdoors in the south of England; but the weather has been unusually warm and dry. Perhaps you mean the Winter Cherry (*P. Alkekengi*), which is hardy, and requires a generous soil and sunny situation to fruit freely. It is advisable to thin them occasionally and transplant the divisions, if crowded, every autumn. It ought to succeed in an herbaceous border in a sunny position.

Cosoloyce cristata (J. W.).—The plants should be kept in a moderately cool house during the winter months, 50° as a minimum being suitable. Only sufficient water should be given to prevent shrivelling until the plants begin to grow. Your plants were probably weak at first, for when *C. cristata* makes strong growth it very seldom fails to bloom. Equal parts of peat fibre, chopped sphagnum moss, and leaf mould would be a good compost. If a surface dressing would suffice, we should advise you not to pull them about at the roots, as *C. cristata* is rather impatient of root disturbance. Add plenty of rough material as crocks or charcoal when top-dressing.

Cold Endurance by Seed (Disputant).—What you have been told is no "wild cat story," as you assume. Your informant had no doubt read in the "Times," or some other newspaper, that at one of the meetings of the British Association, held at Dover during the present month, Sir W. Thisselton-Dyer described certain experiments that he had made, in conjunction with Professor Dewar, to ascertain the influence of the temperature of liquid hydrogen on the germinative power of seeds. The result of the experiments went to show that life goes on at a temperature so low that ordinary chemical action is practically stopped. Ordinary commercial samples of the seeds of Barley, the Vegetable Marrow, Mustard, and the Pea were used. They were actually immersed in liquid hydrogen for more than six hours. The lowest temperature to which they were subjected was 453° Fahr. below the temperature of melting ice. The seeds, after being so immersed, showed no change visible to the naked eye whatever. They came out of the ordeal as fresh and bright as they were before, and all germinated after they were planted. Wonderful as this may appear, you may accept the facts as determined by such high authority as indisputable.

Bunch Gooseberries (J. C.).—Referring to the illustrations by Mr. Abbey and his remarks on the fruits sent to him (*Journal of Horticulture*, September 14th, page 325), you think the variety "has little, if anything, to do with *Ribes oxycanthoides*" (the fruits of which you say are "black") "but more closely resemble those of *R. divaricatum*;" but according to Mr. Card, page 463 of "Bush Fruits" (Macmillan), they do not. The fruit of *R. oxycanthoides* is described as follows:—"Berry round, perfectly smooth, but with a delicate bloom, small or medium-sized, yellowish green or reddish when ripe." Mr. Abbey described the specimens figured as a "pale pink to rosy flesh colour." We examined the fruits, and regard his description as correct, and there was certainly no suspicion of blackness about them. Mr. Card describes the fruits of *R. divaricatum* as "dark purple or black," and if he is right (as a professor of horticulture in an American University ought to be in treating on American fruits) then the specimens figured cannot be *R. divaricatum*. The author named describes eighty species of *Ribes*, but makes no mention of *R. robustum* (your alternative guess, and which you allude to as "an unknown hybrid with a lot of *R. divaricatum* in it"), nor does Mr. Bailey in his "Evolution of our Native (American) Fruits." We have afforded Mr. Abbey an opportunity of perusing your letter (which you do not wish to see in print) and here append his reply:—"The bunch Gooseberry figured in the *Journal of Horticulture* is not that of *Ribes divaricatum*, for the fruits of this are black, smooth, and round, with an agreeable flavour. The berries come nearest to those of *R. oxycanthoides*, which are seldom produced more than three in a bunch; and as for the Dog Bramble (*R. Cynobasti*) the fruits are prickled like a burr, or rarely smooth. *R. robustum* I do not know, but if it is at all like *R. divaricatum* in berry is certainly not the variety or species figured. As for the Buffalo Currant (*R. aureum*) I fail to see the slightest resemblance, but a very decided one to our native Catberry or wild Gooseberry (*R. Grossularia*) in the long or oval fruits, and in the round to a mixture of it and the Garnet Berry or wild Currant of our woods (*R. rubrum*), in fact a natural hybrid. I regret not having retained any of the berries, but they are faithfully represented in the illustration and accurately described." We may add that our reference to *R. Cynobasti* was simply as affording an example of bunch Gooseberries, and for indicating where information could be found on species of American bush fruits. We pointed out differences between it and *R. oxycanthoides*, and may note a difference between Mr. Abbey and the American authors named. The former says "the fruits of *R. Cynobasti* are prickled like a burr, rarely smooth;" the two authors say they are "often" smooth. In Mr. Bailey's photographic illustration, natural size ("Evolution of Fruits," page 398), four of the seven fruits are more or less spiny, two smooth and one nearly so, none prickled "like a burr." Mr. Abbey may be right in his surmise as to the variety figured being a natural hybrid between the wild Gooseberry and Currant of our woods.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. (J. G.).—If the stalk of the fruit is short and stout, your description answers fairly well to Bramley's Seedling; but the tree may not be of that variety. We cannot tell without seeing a typical fruit. (R. M. D.).—The moment the paper covering was removed the side of the fragile box fell away and the Apples rolled out, and as they were neither wrapped in paper with the numbers, nor these attached to them, we can only say that the large Apple is New Hawthornden; the reddish conical fruit Emperor Alexander; the green angular fruit Yorkshire Greening. The yellowish one is imperfect at the base, perhaps Domino; the small one unrecognisable; and the Pear crushed beyond identification. (C. T.).—Burr's Hardy. (J. H.).—1, Worcester Pearmain; 2, unknown, probably a local seedling; 3, Duchess of Oldenburg; 4, Winter Codlin; 5, Ecklinville Seedling (small); 6, Herefordshire Pearmain. (J. M.).—1, Lewis' Incomparable; 2, Williams' Bon Chrétien; 3, Windsor (small).

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Orchid Grower).—1, shrivelled, apparently *Cattleya Gaskelliana*; 2, *Lælia pumila* Dayana; 3, *Cattleya guttata maculata*, an uncommon and pretty form. (H. H.).—1 and 2, probably *Escallonia*, but should be sent when in flower; 3, *Begonia corallina*.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' CEPHAN FUND.—*Secretary*, Mr. Brian Wynne 8, Dances Inn.

COVENT GARDEN MARKET.—SEPTEMBER 27TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2 0	to 3 0	Nectarines, per doz.	3 0	to 6 0
Cobnut, per 100 lb.	70	0 0	Peaches, per doz.	3 0	to 6 0
Damsons	4 0	5 0	Pears, Californian, case	3 0	to 6 0
Figs, green, per doz.	1 0	3 0	Pines, St. Michael's, each	1 0	to 6 0
Grapes, black	0 6	8 0	Plums, English, per sieve	3 0	to 6 0
Lemons, case	14 0	20 0	" Californian, case	4 0	to 8 0
Melons	0 6	1 6	Walnuts, fresh, bushel	20 0	to 0 0
" Rock	1 9	2 6			

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1 0	to 2 0	Lettuce, doz.	1 8	to 2 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb.	0 6	to 1 0
Beans, ½ sieve	2 6	3 6	Mustard and Cress, punnet	0 2	to 0 0
" Scarlet, sieve	2 6	4 0	Onions, bag, about 1 cwt.	4 0	to 4 6
Beet, Red, doz.	0 6	0 0	Parley, doz. bunches	2 0	to 4 0
Cabbages, per tally	7 0	0 0	Peas, per bushel	6 0	to 8 0
Carrots, per doz.	2 0	8 0	Potatoes, cwt.	2 0	to 5 0
Cauliflowers, doz.	2 0	8 0	Shallots, lb.	0 8	to 0 0
Celery, n w, per bundle	1 9	0 0	Spinach, per bushel	2 0	to 4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	to 3 6
Endive, doz.	1 6	2 0	Turnips, bunch	0 3	to 0 4
Leeks, bunch	0 8	0 0	Vegetable Marrows, doz.	1 0	to 1 6
Herbs, bunch	0 2	0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	3 0	to 4 0	Lily of the Valley, 12 sprays	12 0	to 15 0
Asparagus, Fern, bunch	2 0	2 6	Maidenhair Fern, doz.	4 0	to 6 0
Carnations, 12 blooms	2 6	3 6	" bunches	4 0	to 6 0
Cattleyas, per doz.	12 0	18 0	Marguerites, doz. bunches	3 0	to 4 0
Chrysanthemums, white	6 0	9 0	Mignonette, doz. bunches	4 0	to 6 0
" doz. blooms	6 0	9 0	Montbretia, per bunch	1 0	to 1 6
" yellow doz. blooms	5 0	8 0	Odonoglossums	5 0	to 7 6
" bunches var.	0 6	1 0	Pelargoniums, dozen	6 0	to 9 0
Eucharis, doz.	4 0	6 0	" bunches	2 0	to 8 0
Gardenias, doz.	2 6	3 6	Roses (indoor), doz.	1 0	to 2 0
Geranium, scarlet, doz.	6 0	9 0	" Red, doz.	1 6	to 2 6
" bunches	4 6	5 6	" Tea, white, doz.	3 6	to 5 0
Lilium Harrisii, 12 blooms	2 0	3 0	" Yellow, doz. (Perles)	2 0	to 2 6
" lancifolium album	2 0	3 0	" Safrano, doz.	8 0	to 4 0
" rubrum	4 0	6 0	Smilax, bunch	8 0	to 4 0
" longiflorum, 12 blooms	4 0	6 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	to 8 0	Foliage plants, var., each	1 0	to 5 0
Aspidistra, doz.	18 0	86 0	Fuchsias, doz.	4 0	to 6 0
Aspidistra, specimen	15 0	20 0	Heliotropes, doz.	6 0	to 9 0
Chrysanthemums, per doz.	6 0	8 0	Lilium Harrisii, doz.	18 0	to 24 0
Crotons, doz.	18 0	20 0	Lilium lancifolium album	80 0	to 40 0
Dracena, var., doz.	12 0	80 0	" rubrum	80 0	to 40 0
Dracena viridis, doz.	9 0	18 0	Lycopodiums, doz.	3 0	to 4 0
Erica various, doz.	80 0	60 0	Marguerite Daisy, doz.	8 0	to 10 0
Euonymus, var., doz.	6 0	18 0	Myrtles, doz.	6 0	to 9 0
Evergreens, var., doz.	4 0	18 0	Palms, in var., each	1 0	to 16 0
Ferns, var., doz.	4 0	18 0	" specimens	21 0	to 68 0
" small, 100	4 0	8 0	Pelargoniums, scarlet, doz.	6 0	to 8 0
Ficus elastica, each	1 6	7 6			

Bedding out plants in variety from 8s. doz.



HOW TO SUMMER DRAUGHT HORSES.

THAT a good worker should be well fed is an axiom known to all. We do not expect great speed from a cart horse, but we do expect great endurance and strength. There are times in the year when the horses have comparative leisure. These times should be times of recuperation, for the hard days have been, and will shortly come again. Sometimes, too, the season of hard work is much prolonged by untoward weather. Who does not know the fearful strain put on horses, when for day after day the heavy manure is carted along heavy roads? when, in spite of winter weather, the poor beasts are covered with sweat, the damp mugginess being as great a trial as the actual work?

How one welcomes a sharp frost—a hard solid road is such a boon. Then, again, a wet summer day is also utilised for emptying the fold yard, and summer rains have a way of turning field road crags into sloughs of despond. Turnip time demands much horse labour. Hay time, again, is no sinecure; and should the farmer have taken a contract for leading road material, his horses will not have an idle summer, for it must all be carted and shot before harvest.

Harvest hours begin early, and last late. Many of the new machines (reapers) are made easy of draught, but even the best of them finds a laid crop bad to deal with, and the horses have to stand as much wear and tear as the machine. It is the poorest economy on a farm to be under-horsed. Good seasons have a way of slipping past so quickly, and for want of a horse or two necessary work gets left undone, never to be caught up again.

Possibly after all, if a horse could speak he would not say harvest was his hardest work. He would refer mournfully to those days when he slowly and laboriously drew the heavy Potato digger down the tops of the ridges, or patiently went to and fro the heap with a cart piled up with the brown tubers. Mangold time is no joke. Mangolds like low lying land, and they are apt to be allowed to stay till the season is far advanced, and autumn rains have softened the ground.

There are 365 days in the year, and the horse must be well fed on all. He is a large animal, and requires a good bulk of food, and the

farmer welcomes the day when the pastures are well enough grown to find the necessary sustenance. It is a fortunate thing when there is plenty of grass near home, labour is saved, and time gained; but a horse requires more than an ample pasture. He must have a good water supply, and he must, by a good fence, be kept from straying into his master's cornfields, or those of his master's neighbours. A few draught horses will soon make as much havoc as a herd of elephants, to say nothing of the injury to themselves by a gorge of ripening grain. A strand of barbed wire has a miraculous effect in keeping horses at home, but against the hunting season it should be removed.

The pasture should not be grazed too early in the season—i.e., let the grass get a really good start before horses are turned in, otherwise, before the season is half over, there will be little or no food, and instead of a good feed and then a rest, the horses will, in their search for food, spend all their time roaming about. A poor pasture tends to broken fences. It is not in the nature of things to be hungry and see across the way ample supplies, the only barrier being a fence that will yield to pressure.

There are holdings where grass land about the homestead are scarce. What little there is must be reserved for the cows, and therefore if the horses are to have green food of any sort, it must be specially grown and cut, and brought to them. This, of course, entails more labour, but that cannot be avoided. There are many crops suitable for this purpose. Rye comes in early (possibly before the end of April). It is not a bad plan to cut up the Rye, mixing it with Wheat chaff. Too much "green meat" as a start is often injurious. Horses don't know when they have quite had enough, so the rations must be regulated till the stomach gets accustomed to the change of diet. It is well to cut all green food some little time before it is needed, so that the excessive moisture may, in a measure, disappear. After Rye will come in a mixture possibly of Rye and Tares, or Tares and winter Oats, Rye Grass, Tares grown separately, Lucerne, Sainfoin, and second crop Clover. It always seems a pity to us that Lucerne is not more grown; it is a most valuable forage crop, and if we are to have, as at present seems possible, a succession of dry seasons, it should never be omitted from the farm bill of fare.

There will sometimes be carr grass land or water meadows at a distance from home, and it is not a bad plan to take the cart horses down as early as possible on Saturday afternoon and let them have a Sunday's liberty. It makes a pleasant change from the stable, and also lessens the horseman's Sunday work. The cool soft grass is good for the feet, indeed we would remark by the way that if it is at all feasible, young horses should be brought up on soft meadow land, the hoof has a chance of proper growth, and is less liable to be brittle or deformed. Of course a generous diet acts on bones and muscles, so that the benefit is doubled. Without good feet a horse is nowhere.

There is always a chance of more or less colic in autumn. There is often a flush of green food. There is loose grain about, and a handful of fresh ears are tempting. The weather is variable; nights and mornings really sharp and cold, with hot midday sun; and October finds horses in lowish condition. Their coats are beginning to change, and it is well they should be watched. Some horses are particularly liable to attacks of colic spring and autumn, and colic drinks should always be handy. It is poor economy keeping horses out at grass late in the autumn; it is bad for the grass and bad for the animals. There is not much nutrition to be obtained, and less food in a comfortable stable will keep them in better condition. It is easier to lose condition than to regain it.

WORK ON THE HOME FARM.

The weather now appears to be thoroughly broken, and we are having rain every day. The soil is thoroughly moistened through, and ploughs are working merrily and well. There will be no trouble about getting the Wheat in, but the season will be late, as the land should be ploughed a month before sowing. Five inches is quite deep enough to plough for Wheat, and shallow enough too; in fact it is just the right depth at which the herbage may be well buried and a firm seed bed secured.

If it is intended to use the drill no time should be lost in using the roll after the plough. The roller should pass over the ground at least

twice, and no opportunity must be neglected of getting this operation completed. Upon the solidity of the seed bed often depends the success of the crop.

There is more threshing doing, but less than usual for September, in fact markets still look comparatively deserted. Notwithstanding the limited home supplies, we note that Wheat is lower on the week. Barley is quoted a shilling higher in the averages, but this is misleading, as it is only caused by the increasing sales of malting in proportion to those of grinding qualities. As a fact the price of malting Barley is hardly fixed yet, the largest brewers not having come on the market, and purchases having been made principally by merchants speculating. We are informed in a good quarter that prices will hardly reach 30 per cent. except for the choicest lots.

Pastures have improved and show a fair bite for the stock, but grass in autumn is not very nutritious, and far-seeing owners will not be niggardly in the use of cake. They will also take measures to insure a winter supply at present prices, for the consumption of oil cake and other artificial foods is certain to be large, and prices must rise.

Surely hay must be worth buying at present price in view of a certain dearth of roots. There is also plenty of room for a substantial rise in the value of straw.

Potatoes must be lifted as soon as ready, for we continue to hear persistent rumours of disease on the deeper soils. This, in conjunction with the partial failure in other parts owing to drought, will probably bring about a rise in price before Christmas.

Lambs are still a source of anxiety, being poor in condition, and losses occur daily. They are cheaper than ever. Good lamb is now the same price as mutton.

DEMAND FOR SMALL HOLDINGS.—The demand for small holdings in the southern part of Lincolnshire is said to continue, notwithstanding the low prices which obtain for agricultural produce. Those having small farms to let experience no difficulty whatever in securing a tenant; on the contrary, they are frequently inundated with applications. As an instance of this it may be stated that one estate agent, who advertised a farm of 20 acres, has this week received no less than sixty applications for the place, which it is anticipated will let readily at 42s. an acre. Some of the applicants have even offered to pay half a year's rent in advance.

HOP-PICKING OVER.—The Hop-picking in the Farnham district is now practically over. Poles will be still standing in some plantations, but these Hops will have lost much of their virtue. Speaking generally, much satisfaction is expressed at the crop. At present prices are not high, but Farnham growers are holding on for a rise. This year there has been very little trouble, comparatively speaking, with the pickers. In most cases they received 2d. per bushel, and with one exception this price has given satisfaction. The accommodation provided by the growers for the "foreign" pickers has been somewhat better. By the end of the week, says a contemporary, the hoppers in Kent will have finished their work. Many of the pickers have already returned to London.

GOAT-KEEPING.—Goat-keeping to profit has been written about a good deal, but few people have taken to the peculiar animals. It is quite true there is plenty of waste land in the country where quantities might be kept. The she-goat probably gives more milk and richer according to its size than any other animal. There are no doubt (says the "Rural World") numerous householders in the country who buy their milk now that might keep goats and get their milk all the purer and all the more nutritious from the animals. The milking certainly might prove a poser to some, but surely the difficulty might be got over. Maid-servants are the best milkers in the counties of Cornwall, Devon, Somerset, and Cheshire, and some other dairy counties in England and Wales.

PIGEONS.—There is no reason why pigeons should not be kept more extensively now so much land is laid down to turf and all kinds of corn are so cheap. On grass fields they feed a good deal, and that without doing an atom of damage. And even on arable land they are far from guilty of always doing harm. They devour a good deal of that very bad weed charlock, both in flower and in seed, and the same may be said about one or two other troublesome weeds. The young birds meet with ready sale at about 1s. 4d. or 1s. 8d. a pair, and as breeding goes on nearly all the year round, a good sum may be made from a flock in the course of a year. A good deal of corn that the old birds pick up would be wasted if not thus devoured, and even what is served to them, as before said, is not worth much nowadays.

CHICKENS.—Where large numbers of chickens are kept in one run (a system of which we strongly disapprove) the greatest care must be taken to scatter the food well about, or preferably to feed with a good number of troughs placed up and down the run. If only one or even two troughs are used, the big ones will go hungry away. We would urge on our readers (says a contemporary) the necessity of picking out the chickens this week and giving all a fair chance. Then not only do we find chickens of different sizes placed together, but we actually find cockerels and pullets running in the same runs. This plan is heedlessly adopted by thousands of poultry keepers. Theoretically, perhaps, they disapprove of what they are doing, but practically they cannot be bothered to have separate runs made for the different sexes. Nothing looks so bad as to see these mixed lots. A pen of growing cockerels and a pen of growing pullets are equally satisfactory in appearance, but when they are all muddled up together, it is most difficult to decide on the points. This is not often considered, but for mere appearance alone the birds should be divided.



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HOME-GROWN FRUIT.

SOME years ago, at or about the time when the first great National Apple Congress was held at Chiswick in 1883, there were not a few excellent men who conscientiously regarded the attempt then made to improve the supply of home-grown hardy fruit as something of a fad, and the subject as a convenient theme for eloquent doctrinaires. There was happily no lack of practical men, thoroughly conversant with the power of cultivation, who were equally convinced that a great and promising future was open to cultivators with knowledge and enterprise to extend and improve the supply of home-grown fruit to their own advantage, to the benefit of consumers, and to the credit of the nation.

Time has proved to demonstration that the generally low status to which our home supplies of fruit had fallen a quarter of a century ago was not due to irremovable natural obstacles, such as adverse climate and ungenial soil, but was entirely due to happy-go-lucky or slipshod methods of procedure, such as relying on the produce of exhausted orchards, and bundling this into the markets with less care than Potatoes, plus the topping, to deceive purchasers, who thus turned their attention to better grown, carefully graded, and honestly packed fruit from other lands.

The national display of Apples on the occasion mentioned, with the papers read and discussions thereupon at the Congress, proved the beginning of a crusade that did not start a moment too soon. Nothing that has been done by the Royal Horticultural Society has had a greater and more far reaching effect in developing the fruit growing resources of this country than the great gathering of 1883. The effect of it was seen, and the power of selection made manifest in the Apple and Pear Conference at Chiswick in 1888, and this was the precursor of the historic exhibition in the London Guildhall in 1890, under the auspices of the Worshipful Company of Fruiterers, impelled by the then Master of the Company and Lord Mayor Sir James Whitehead, Bart. That this remarkable City show of fruit had a great effect on the nation

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cannot be questioned, but it is doubtful if it would or could have been held without the previous Chiswick Conferences stimulating cultivators and generally showing the way.

On the occasion referred to the ancient City Company achieved a notable triumph, the first of the kind for making its influence felt on the fruit growing community, and apparently the last, for after the great pomological display it appears to have sunk into obscurity so far as regards any influence it might exert in affording stimulus to the fruit-producing power of the kingdom. Whether it will ever wake up again and make itself more than a name amongst growers of the most health-giving and wholesome food for the millions of citizens remains to be seen. Very different, and befittingly so, has been the policy of the Royal Horticultural Society. This Society might have limited its action to the routine work of its Committees and disseminating information to the ever-increasing number of Fellows through its *Journal*; but it does much more, for with the practical co-operation of friends who are interested in the fruit growing industry, it continues the autumn Shows at the Crystal Palace that have grown into great fruit tournaments of a national character. These autumn exhibitions appeal to a large and important section of horticulturists as powerfully as the Temple Shows in early summer do to another great section, and both displays have a powerfully attractive force on the public. We thought the crowd on the opening day of the Palace Show (which is reported on other pages) greater than ever; but this may be because the exhibition was more compactly arranged, and, in effect, improved; at least, this seemed to be the prevailing opinion.

Whether each or any of these national fruit exhibitions is a trifle larger or smaller, better or worse, than others which have been arranged in the famous building, is a matter not worth discussing. They must to some extent vary with the seasons. It is enough to say, and the fact is significant, that they never fail, but are always successful, whether the seasons are wet or dry, and crops generally heavy or light; if they are heavy the fruit is apt to be small and cheap; if the crops are light the individual fruits run larger and are dearer. At the recent show the samples were large enough for all practical purposes, and not a few were of enormous size, while there was a notable absence of what is known as trash.

At the luncheon, which was by no means equal to the show, the President, Sir Trevor Lawrence, Bart., said he had been travelling on the Continent, and nowhere could he find fruit in the least approaching our best home-grown samples, especially Grapes and Apples. Our fruiterers' shops were far better furnished than any the President had seen abroad, and these he evidently regarded as hardly worth the name. Moreover, at a meeting in the Board Room of the Crystal Palace for considering the question of the representation of British garden produce at the Paris Exhibition in 1900, French delegates expressed their astonishment at the size and colour of the Apples and Grapes in the show.

We have referred to the luncheon, and only mention it again for the purpose of alluding to the most interesting function of the occasion—the public presentation of the Victoria Medal of Honour to Mr. James Douglas. As a member of Council when the sixty medals were bestowed Mr. Douglas was not eligible to receive one, as there can never be more than sixty recipients, as corresponding with the years of the great reign thus commemorated. On the death of Mr. M. Dunn Mr. Douglas was enrolled among the sixty, and by no one has the honour been more richly merited. Another medal now remains for disposal by the death of Mr. T. F. Rivers, and many names have been mentioned in connection with the vacancy, but most frequently an omission has been noted, not of a name, but of a class. Among our great market gardeners it is said that not one Victoria medallist is to be found. We have not referred to the list, but simply register a report that passed around at the great show, where market fruit was so well represented.

We have been asked to refer to a few alleged "slips" in judging, but we prefer to leave allusions of this nature to others who may be more intimately acquainted with cases that may be thought to need public comment. Our object is to emphasize the fact that great progress has undoubtedly been made in the growth of home grown fruit. We rejoice in the success of the last great show, and congratulate the exhibitors and the Royal Horticultural Society on its production and arrangement in the noble transept of the Crystal Palace.

THE HARVEST OF THE AUTUMN.

ONCE more the mellow days of autumn are with us, each one seems perceptibly shorter than that which preceded it, the nights are cool and damp, the days a fair sample of the restless changes of weather which our fickle climate supplies. Boisterous gales, torrents of rain, bright sunshine, and dead calm form around us a series of "lightning changes" which stir to energy the lusty Briton who only a few weeks ago looked worn and jaded under the influence of a fierce summer's sun. The grain has again been safely garnered, and the fields of stubbles are being rapidly transformed in appearance by those who have put their hands to the plough.

The harvest of the garden has scarcely begun, though the tender Peas, crisp Lettuce, small fruits, early Plums, Potatoes, and numerous other vegetables have for a long time supplied us with a varied bill of fare; but these are not the great crops which we store, they only contribute to the needs of the hour. Just now King Apple reigns supreme, though the elements have dealt roughly with him of late, for the orchards and fruit gardens are in many places strewn with "fallen Kings." 'Tis a sad time, indeed, for many who have watched and been thankful for their fine crops, but it is one of the many difficulties which the "tillers of the soil" must perforce contend with. The Apple crop is very patchy this year, though in some instances the results are better than was at one time anticipated.

In an orchard I recently visited trees of that fine early autumn Apple Queen Caroline were carrying a splendid crop; the fruits were large, clear, and bright, and found a ready sale at good prices. Barchard's Seedling was also cropping grandly. It is an attractive Apple with a bright crimson cheek, and is juicy and sweet. Cox's Orange Pippin is not generally a success this year; it is a pity a variety of such superb quality cannot be induced to crop more consistently. One also meets with so many trees of it which canker badly, even when growing in good soil and a situation which seems to be an ideal one. How much better grower Cox's Pomona is! I have this year met with fine crops of it, and although not a high-class dessert variety, it is by no means to be despised for eating raw, and it is a good cooker too. Old Northern Greening and Dunselow's Seedling are bearing good crops, and neither has been much injured by the recent gales, as they do not yet part easily from the branches.

Gathering will now need constant attention, so that each variety may be stored in good condition. When allowed to ripen on the trees Apples develop their fullest and most exquisite flavour; when plucked too early they quickly lose their crispness, are not good in flavour, and will not keep well. A little close observation will soon teach anyone just the right stage at which to gather. When the colour brightens quickly, and the green parts gradually change to yellow, the ripeness of maturity has arrived, and the autumn harvest of the king of hardy fruits is ready for the hand of the gatherer. If left longer on the trees they will soon begin to fall, and cheat the grower of his full reward. At this stage they part readily from the branches as the gatherer performs his work. When much pulling and twisting is necessary it is a sure sign that they ought to tarry yet longer on the trees. Very late varieties should be left on the trees as long as it is safe without fear of injury by frost.

Baskets lined with soft woollen material should be employed for gathering, as it is a great pity to see choice fruits badly bruised through being carelessly gathered or tumbled into unlined baskets. For common varieties in orchards the specially made gathering bags frequently employed in Kent may be tolerated because they help to expedite the work, but they ought not to be used for choice or large fruits which are easily bruised. In well appointed gardens there is usually an extensive fruit room, which if not large enough to hold all the fruits produced, generally affords space for the finest samples. These should be placed in thin layers on shelves covered with clean white paper or straw. Choice samples which need to be preserved as long as possible ought to be placed in drawers and kept perfectly air tight. A good way of securing the latter condition is to wrap each fruit separately in tissue paper, then surround with cotton wool, arrange the fruits in layers, and finish with a few sheets of wool.

Some cultivators have found that both Apples and Pears keep fresh and plump when wrapped in tissue paper, and embedded in finely powdered charcoal placed in a drawer. When large quantities are grown in orchards, sheds and other substantial buildings may be turned to good account for storing. First line the floors and walls with a foot thickness of clean straw, and place the Apples upon it in layers not exceeding 2 feet in thickness; if they are only half that thickness there will be less decay in the fruits, but with only limited room for storing, the 2 feet layers are often a necessity. The surface of the heaps ought to be left uncovered for a few weeks, but when sharp frosts are anticipated, a thick covering of straw should be given, which will generally make all safe during severe weather. Barrels lined with paper are also convenient receptacles for storing Apples; if placed in carefully, the surface covered with straw, and the barrels kept in a cool, dark, dry room, or frost-proof shed, I have found the fruits keep

splendidly. Whatever arrangements are made for storing, it should always be borne in mind that a cool temperature and a dry, still air, are conditions essential to success in the preservation of Apples and Pears. Of the latter fruit the crops are as a rule very scanty, but large consignments of Hesse have found their way to the markets recently.

The harvest of root crops will this year not be a large one; in the fields they are almost nil, but in gardens the crops of Carrots and Beets are fair average ones, though the individual roots are smaller than usual, a fault—if fault it be—which the cook will not often complain about. Forks and ploughs have recently been busy unearthing good samples of the indispensable tuber; these are not overgrown as in some former years, and are generally sound and clean. As yet I have met with little disease, and the sooner all Potatoes are lifted the better, for if the present damp cold weather does not bring disease it will favour further sprouting if frosts keep off.

Through these, and the many other matters which require attention, willing hands will be kept busy during the shortening days of autumn. How wise and sound are the natural laws which tend to give us so long a season of harvest, thus spreading the great work of ingathering over a conveniently long period—a period made bright by thankful rejoicings as the successive crops of Mother Earth are gathered in.—H. D.

USEFUL BULBS.

WITHOUT going into details of culture in these notes, it might be interesting to some readers if a list of indispensable bulbs was given for producing a supply of blooms, either for cutting or decoration, from the middle of December to the month of May.

The bulbs which ought to be procured and potted at once are Roman Hyacinths. Only the white variety should be grown, as the blue Roman Hyacinth is not, as a rule, satisfactory. Roman Hyacinths are comparatively small bulbs when compared with the larger Dutch varieties, and while one bulb of the latter will require a 5-inch pot, the same size accommodates four or five Romans; 100 bulbs are therefore necessary to make about twenty pots.

Paper White and Roman Narcissi are also early flowering, and follow closely on Roman Hyacinths. Of the two varieties the Paper White is the better, but not quite so early as the Roman. It is, however, more effective, though neither surpasses the Roman Hyacinth for sweetness, purity, and floriferousness.

Freesias are excellent bulbs for early flowering, but they do not like forcing. To have them as early as possible the bulbs should be potted in August, and grown under cool conditions, as they are better and stronger in every way when allowed to grow to a flowering condition gradually. A shelf in a cool greenhouse is the best place. Double English Daffodils (*clamonius plenus*) are showy, being readily grown and forced in pots, or in quantity in boxes.

Tulips may be had in bloom in January in pots or boxes. The best early Tulips are the Duc Van Thol, the scarlet variety being specially useful for its brilliance in the dead of winter, but they must have bottom heat to bring them into bloom. There are also white, rose, yellow, violet, scarlet, and orange varieties. These prove serviceable for succession. The second-early single-flowering Tulips will continue the display, good varieties being Artus, Cottage Maid, Crimson Beauty, Joost van Vondel, Keizers Kroon, Pottelbakker, and Vermilion Brilliant. Of double Tulips select red and yellow Duc Van Thol, Blanche Hative, rubra maxima, and Tournesol for the early flowering, and Eastern Queen, La Candeur, rex rubrorum, Rose Blanche, and Titian for later.

Snowdrops are essentially outdoor flowering bulbs, which when planted come up every year, and bloom well; but they may be grown in pots if planted thickly, and not subjected to much heat. Crocuses are showy, but more useful for decoration as pot plants than for cutting. The named varieties are the finest for pot culture. Chionodoxa Luciliae and Scilla præcox are charming for pans. The bulbs are small, and must be planted thickly so as to produce a fine effect.

The main bulbs for decorating the greenhouse are the single Dutch Hyacinths. Good heavy bulbs of the best varieties give extraordinary fine spikes of bloom in February and March. The finer the spikes of bloom, however, the less adapted it is to cut for decoration. For the latter purpose the cheaper varieties, or second year's bulbs, may be employed; but most growers plant out their old bulbs in shrubby borders. The flowers come in well for cutting in April.

The trumpet varieties of Narcissus have fine large blooms, which make an imposing display in the early spring. Some may be had early by potting in good time in autumn and forcing gently after the pots are full of roots. A good representative selection ought to include the following varieties:—N. Horsfieldi, rugilobus, princeps, Trumpet Major, Sir Watkin, Emperor, Empress, and Henry Irving.

Among the Polyanthus Narcissi, in addition to Paper White, include Bathurst, Her Majesty, Grootvorst, Grand Monarque, Jaune Supreme, Luna, and Soleil d'Or. The bulbs vary in size. Of some

varieties two bulbs may fill a 5-inch pot. The very largest will require a single pot, and four bulbs in some cases may be accommodated.

For an effective late display the beautiful Narcissus poeticus and N. p. ornatus must not be forgotten. These bulbs are small, and five may easily be placed in a 5-inch pot. They flower in April and May, and are really the most charming of Narcissi to grow in quantity in pots and for massing in borders outdoors.—E. D. S.

EXPANSION OF THE HOTHOUSE INDUSTRY.

(Concluded from page 269.)

THE FORCED STRAWBERRY INDUSTRY.

"Thirty years ago the commercial growers of forced Strawberries might be counted on the fingers of one hand; but two growers were known in Covent Garden about twenty years earlier. The first was a Mr. Smith of Twickenham, who apparently began to force Strawberries for market at least fifty years ago. He is not now living; but Mr. Richard Clarke, who followed his example forty-seven years back, was visited by me at Twickenham last summer. He stated that Mr. Smith began forcing Strawberries many years before he started, but did not mention any other market grower who was as early in the field.

"At the present time there is a considerable number of men who make Strawberry forcing their principal business. The great majority of them are grouped together at Belvedere, Erith, Eltham, Swanley, and Bexley Heath, all in Kent, while there are growers at Hampton, Twickenham, Swanley, Worthing (already referred to), and scattered places, who make Strawberries less of a specialty.

"The little colony of Strawberry forcers at Belvedere is particularly interesting, because it consists almost entirely of growers who work on a small scale; also because it affords the most considerable example that I have seen of the use of unheated glass houses in this country.

"The Belvedere glass house industry is carried on under what may be styled a compact and simple system. Strawberries occupy the houses from Christmas, or a week or two earlier, till the middle of June; then Tomatoes or Cucumbers take their place up to the middle of October; and Chrysanthemums follow up to mid-December or Christmas. It was pleasing to see quite a nice little business established in many an instance on a very small holding.

"When Mr. Court started there were very few glass houses in Belvedere, whereas now there are many thousands of feet, and in nearly all Strawberries, Tomatoes, or Cucumbers, and Chrysanthemums are grown. He thinks that cool houses hold their own well against heated houses for Strawberries, and he does not use heat much for Tomatoes, but needs it for Chrysanthemums.

"Last year Mr. Court had 20,000 Strawberry plants in his old houses, and this year 40,000 in the old and new nurseries. On the morning of my second visit, on April 8th last, he had begun picking Royal Sovereign Strawberries, 9 lbs. having been sent to market. The house containing this earliest lot of fruit presented a most pleasing appearance, the crop being the best I have seen, probably averaging fully $\frac{1}{4}$ lb. per pot, or at least an ounce over the average obtained by good growers generally. All the crops in the heated houses had set their fruit well. They consisted entirely of Royal Sovereigns, the Paxtons, about equal in number, being grown in the cool houses. The pots in nearly all the houses were on the ground; but on my first visit I saw some plunged in a Mushroom bed on a stage of corrugated iron, under which was a second bed for Mushrooms alone. The Strawberries are said to start the better for being plunged in the manure of the Mushroom bed, and the fungi grow between the pots.

"No attempt is made at Belvedere to force very early Strawberries, as at Worthing, because it is considered that such forcing would not be profitable. Mr. Court explained that, whereas Strawberries for fruiting in April or later do best when the pots are placed on the ground, very early plants require to be placed on stages, or on inverted flower pots, to promote root action. All his plants were placed in the houses in December, as soon as Chrysanthemums were out of the way; and for his earliest crop he began firing in the middle of January.

"A curious piece of information was elicited by a remark about the directions in which glass houses are made to run. It is usually supposed that houses running north and south or north-east and south-west are best, because the sun shines about equally upon both sides of the roof; but Mr. Court always grows his best crops of Strawberries in houses running east and west, though the fruit is a little earlier on the south than on the north side of each house. For Tomatoes, when planted across the house, he regards this direction even more advantageous than for Strawberries, because the midday sun shines along the rows of Tomato plants.

"With respect to prices, the Belvedere growers, of course, do not realise such high rates as very early Worthing fruit commands; but the day before Mr. Court began to gather his Strawberries, the Covent Garden quotation was 6s. to 8s. per lb. Last year the price, after

falling, recovered, so that Strawberries from cool houses made me more money than the later portion of the crop in heated houses.

"The earliest Strawberries seen in Belvedere on the occasion of my first visit were grown by Mr. Budd in his nursery of an acre and a half, containing 1400 feet of glass houses 12 feet wide. There were three heated houses last year, from which 60 lbs. of Strawberries had been picked by April 6th, and a good quantity of fine fruit was still coming on.

"This grower presented a very gloomy view of his industry. He said that, fourteen years ago, at the period of the season then current, forced Strawberries sold at 14s. per lb., whereas a Covent Garden salesman had informed me that 6s. per lb. was the highest price on the day preceding my visit to Belvedere. Mr. Budd admitted that Strawberries had made 32s. per lb. last year; but they were only an extremely small quantity, forced very early."

The author concludes his valuable and voluminous report as follows:—

"The principal object of the inquiry entrusted to me was to obtain information as to the recent development of flower and fruit farming in this country, the circumstances under which those industries are carried on, and their prospects for the future. In the second division of this report, when summing up my account of flower farming, I have remarked upon the great increase of that industry, both in the open and under glass; in the third division the statistics of hardy fruit have been given, with numerous other details; and in this last article estimates of the expanse of commercial glass houses and the production of fruit in them are presented, with some comparisons of past and present prices."

"The general conclusions arrived at are that supplies of flowers and fruit as a whole are increasing at least as rapidly as the demand, while the production of bulbous flowers and hothouse fruit appears to be expanding excessively, with the system of distribution as it exists at present. But it is to be observed that there is a very wide margin between the prices paid by consumers of flowers and fruit and those received by producers, partly owing to a cumbrous and extravagant system of distribution, and that it is probable that a very great increase in the consumption of these products might be developed by more economical methods of supply. Some improvement in this respect has taken place in recent years, with the assistance of the railway companies, and it is to be hoped that progress in this direction will be continuous."

NURSERYMEN AND MOSQUITOES.

A CORRESPONDENT of the "Daily Chronicle," referring to the prevalence of mosquitoes (real or supposed) in several London districts during the hot weather, remarks that since various attempts to localise the insect seemed to be a failure, he would give his experience. Twelve years observations had convinced him "that the home of the 'skeeters' is the greenhouse of the nurserymen who import exotics." We have heard something like this before, and in spite of our friend's long period of observation, cannot but think he is quite mistaken, and that his theory has no foundation of fact.

Some years ago a paragraph appeared in several newspapers to the effect that a number of men employed in one of our principal London nurseries had been severely stung by mosquitoes. On inquiry at the establishment I found there was no truth in the report. There are persons who are hard to convince, and of course the remark was made to me that probably it was true, but the nurserymen denied it, lest if it were believed, people should avoid visiting their houses, or be unwilling to purchase plants which might convey such pests.

As to the recent so-called plague of these flies, the first point of importance is, that in the case of most of the sufferers the name of the insect that has attacked them is not positively ascertained. Very few can distinguish a mosquito from a gnat. The resemblance is considerable, while both insects are possessors of the power of stinging and biting. During very hot weather, and at other times, on certain constitutions the common English gnat can cause much pain by its sting, also large swellings, even irritation sufficient to affect seriously the general health of the person attacked. And besides the too familiar *Culex pipiens*, others of the tribe, natives of England, are occasionally guilty of puncturing the human skin. Then I have proved that some swellings, thought to be gnat bites, were caused by an acarid or mite, which had burrowed under the skin, as is the habit of the harvest and sugar mite.

I would not for a moment deny that some mosquitoes are brought to our islands, more perhaps than usual last year, but there cannot be many, and nurserymen can hardly be held specially responsible for their presence. The habit of such flies renders it exceedingly improbable that any number of them should travel far from the shallow ponds and streamlets where they are bred, for the life of the larva or grub is aquatic, nor do they continue very long in their winged condition. While winged they would not attach themselves to plants, nor is the chrysalis fastened to herbage, it floats upon the surface of the water till its day of emergence arrives.

—ENTOMOLOGIST.

* It may be found *in extenso* in vol. ix., part ii. and iii., 1898; vol. x., parts i. and ii., 1899, of the Journal above mentioned. John Murray, Albemarle Street. The price of each part is 3s. 6d.

PEACHES IN THE ISLE OF WIGHT.

THERE having been so much written respecting the culture of the Peach in the gardening papers, I should like to add a small share in referring to my visit to Sir Charles Seeley's, Bart., Brook House, Isle of Wight. These gardens are noted for Peach and Vine culture, and the courteous gardener, Mr. William Tribbick, showed me the very fine orchard house (150 feet by 30 feet), which contains some of the grandest specimens of Peach trees to be found in the kingdom. These have been planted twenty-four years, but are still in the best of health. They cover a space of 3000 superficial feet, and were, at the time of my visit in July last, carrying 3000 fruits, which were all of the finest quality, many weighing from 12 to 16 oz., and beautifully coloured. What surprised me was the splendid growth, and the broad dark green foliage with such heavy crops. There is no sign of spider, scab, or fly, and the trees, in the rudest health, form a grand object lesson for any Peach grower.

There is also a lean-to vinery, facing due south, 48 feet in length, which contains some superb Muscat of Alexandria. The Vines have been planted twenty-two years, and for the past twenty years have produced remarkable crops annually. This season many of the bunches weigh 4 and 5 lbs. per bunch, and are splendid in berry, and at the time of my visit were just taking on the much sought amber tint. Black Hamburgh is represented by heavy crops of large clusters, perfect in berry and colour. I have no doubt it would well repay some of our noted fruit growers to pay a visit to Brook Gardens during the fruit season.

I might also add that everything appertaining to gardening is done to the best advantage, and reflects great credit on the able gardener, Mr. W. Tribbick, F.R.H.S. The plant houses and large kitchen gardens and pleasure grounds are all in keeping with a first-class establishment.

—VISITOR.

NOTES FROM BRISTOL.

IN the suburbs of this flourishing city there are many well-kept gardens, their owners being either merchants of the past or present who find gardening in some of its many aspects a healthful recreation. Visitors to the Chrysanthemum and Fruit Shows held in Bristol have ample evidence of the skill of the gardening craft, and the support they get from employers in the great variety and extent of the display produced from local sources. Needless to say there are in the out bloom classes competitors from all parts, though local growers take a share of the honours. In other sections of the Shows—plants in particular—there is a great keenness among the Bristol men. Having recently had an opportunity of calling on a few residents in the western suburbs of the city, I append a few impressions of what I found interesting.

OLD SNEED PARK.

This, for many years the residence of Francis Tagart, Esq., has long being famous for its stove plants, Ferns, carpet and other bedding, the latter being well and extensively carried out. One bed having a circumference of 37 yards, situated near the principal entrance to the mansion, has been justly admired by many. Mr. Tagart generously allowing his gardens to be thrown open to the public at a small charge, the receipts being given to the Gardeners' Orphan Fund. Such a bed displays the skill of the planter in a marked manner, and the credit which has been so freely given to Mr. Binfield, the gardener in charge, has been well deserved. It is, indeed, a masterpiece of colour blending and perfection of design. Some 20,000 plants are employed in about thirteen varieties. At the time of my visit beds and borders everywhere were a blaze of colour, affording a pleasing contrast to the sombre tints of near and distant landscape. The house stands on an elevated site, and commands a fine view of the beautifully undulating park and distant woods.

There are extensive ranges of glass structures for the supply of flowers, fruits, and plants, the more modern portion being erected a few years since by the well known Chelsea firm, Messrs. Weeks & Co. In the stove, which is a lofty and commodious building, are large specimen and smaller decorative plants. There is a monster Croton Queen Victoria, and also one of the finest of the giant Anthurium Veitchii to be seen anywhere. I also noted other large Crotons, Warreni and Countess, Kentias Belmoreana and Fosteriana, Latanias and Seafortias, Tree Ferns, and Cycads. There were also healthy specimens of Davallias Mooreana, canariensis and bullata, Microlepia hirta cristata, Adiantums in variety, and Gymnogrammas.

On light chains strained to the rafters were suspended some healthy Orchids, such as Cattleyas Dowiana, Rex, Trianae, aurea, labiata and Mossiae, Phalenopsis Schilleriana and grandiflora. Dendrobiums in variety, Vandas, Lælias, and some fine pieces of Oncidium varicosum Rogersii. A small but very pretty conservatory forms the garden entrance to the house, and in this I noticed a couple of very fine pots of Crinum Moorei in flower. There were many other plants and points of interest, but space forbids even brief mention.

Peaches and Grapes are largely grown, the first named being finished, but there remained a good crop of late Grapes in three or four varieties for the autumn and winter. Figs are well grown on an open wall, and Apples and Pears showed that the trees had been well cared for in the kitchen garden. Mr. Tagart takes a deep interest in his garden, and in Mr. Binfield he has a gardener worthy of the confidence reposed in him.

STOKE HOUSE.

Grapes and Chrysanthemums are perhaps the leading specialties here, and in both Mr. Wilkinson, the gardener, has proved himself an expert. In his previous situations, at Wilts and Torquay, his name became

familiar one among high-class growers, and he still retains his enthusiasm for the autumn flower. His plants are vigorous and healthy, and the buds advancing satisfactorily, the most promising of which are Japanese Mary Molyneux, N.C.S. Jubilee, John Seward, Ella Curtis, S. Prabin, Le Grand Dragon, Chatsworth, G. J. Warren, Madame Carnot, Mrs. Messer, Australie, Mrs. H. Tucker, Australian Gold, J. Chamberlain, Owen's Memorial, Werther, Madame Jossier, Dr. Libert, Mrs. J. Lewis, Phœbus, Lady Northcote, Edith Tabor, Lady Hanham, and Chas. Davis.

The best of the incurved comprised the following—Topaze Orientale, C. H. Curtis, Mrs. N. Molyneux, J. W. Wilkinson, Yvonne Desblanc, Mrs. Sarah Owen, Golden Nugget, Madame Ferlat, Duchess of Fife, Chrysanthème Bruant, Miss Annie Hill, T. S. Lockie, Countess of Warwick, Mr. J. Darley, and Mrs. Col. Goodyear.

The Muscat of Alexandria Grapes grown by Mr. Wilkinson are the best coloured I have seen this season, and at several shows in the West, including Bath and Taunton, he has won easily in that class. Black Hamburgs, too, have been almost equally good in colour and bunch, both varieties growing in outside borders. In the cold pits were winter Violet New York, a variety Mr. Wilkinson speaks of as being better than Marie Louise.

Apples were a heavy crop in the fruit garden, espalier as well as

The stores and greenhouses were well stocked with exhibition Ferns, with which Mr. Bannister has been a noted prizewinner for many years, as well as foliage and flowering plants in variety. The king of Maiden-hairs, *A. Falcatus*, was growing in tiny pots for table decoration, as well as in large specimens for exhibition, *A. cuneatum*, *grandiceps*, *formosum*, and *trapeziforme*; *Nephrolepis rufescens*, *tripinnatifida*, *Davallia* of all sorts, *Alsophila excelsa*, and Gold Ferns are some of the most noteworthy. *Crotoms*, *Dracenas*, *Aralias*, *Palms*, and *Asparagus virgatus*, all in luxuriant health, as also were roof climbers such as *Allamandas*, *Stephanotis*, *Ipomæas*, and *Antigonium leptopus*; *Calanthes* and *Nerines* are each grown, as also were *Chrysanthemums* for large flowers and cutting. Much more might be mentioned, but beyond the excellent up-keep of the garden in each department sufficient has been said.

SPRINGFIELD.

Specialities here are not numerous, but all is uncommonly well done. Mr. C. Edwards has had a resident charge for something over thirty years, and during that time has carried out some excellent work, both in plant and fruit growing. Although not an exhibitor, his annual display of *Chrysanthemums* is very fine, and the time was when it was kept up to date in the matter of variety. The plants this year are exceedingly dwarf,



Photo by Russell & Son, Ltd.

Crystal Palace.

FIG. 57—A GLIMPSE OF VEITCH'S APPLES.

bush trees being alike good. Warner's King, New Hawthornden, and Kentish Pippin each bore a fine crop of large fruits. An arched trellis over the central path furnished with Pears makes the walk shady and pleasant, but Pears this year were not a heavy crop. The lawns and pleasure grounds are not extensive, but are well kept and afford some very interesting features. A large bed of bronzy leaved *Cannas* bearing salmon coloured flowers was very striking.

COTE HOUSE, WESTBURY-ON-TRYM.

This is the home of H. St. Vincent Ames, Esq. I paid a visit to see the veteran fruit and vegetable grower, Mr. Bannister. Among hardy fruits, Apples and Pears in particular, Mr. Bannister has a long standing reputation, and an inspection of his trees clearly illustrates the reason for his successes at local as well as at more distant shows. The best fruits are carefully protected against birds and wasps with muslin bags, and the varieties cultivated are varied and good. *Glois Morceau*, *Doyenné du Comice*, *Hacon's Incomparable*, *Pitmaston Duchess*, *Beurré Hardy*, *Vigornie* (a very highly flavoured Pear), *Doyenné Boussoch*, *General Todtleben*, *Seckle*, *Beurré d'Anjou*, *Beurré Diel*, and a fine tree of *Marie Louise* represent some of those bearing the best crops. In Apples *Mère de Ménage*, *Cox's Pomona*, *Adam's Pearmain*, *Court Pendu Plat*, *Worcester Pearmain*, *Stirling Castle*, and *Lady Henniker* were the best in fruit. As in other gardens of the neighbourhood, the prolonged drought was a source of complaint, and had been very severe.

and show promise of some good blooms later on. *Gloxinias* have long been well grown for summer displays, so also have *Achimenes*, *Begonias*, and *Pelargoniums*. Orchids, though they do not comprise a large collection, have long since held a local reputation for choice variety and excellent cultivation, but time did not permit inspection. *Cattleyas*, *Bowringiana* and *gigas* are favourites of Mr. Edwards, the former with five sheaths and the latter with seventeen flowers would be fine in their season.

Peaches and Nectarines are represented by large bushes in pots, and the crop of this season has been heavy; the back walls are furnished with permanent trees, the others are grown in pots, so that their transfer outdoors provide space for the *Chrysanthemums*. Two houses carry the year's crop of Grapes, and one division provides Cucumbers almost all the year round from one set of plants. This is effected by frequent and regular dressings of fresh soil placed over the roots—a mere sprinkling each time; and the results obtained are remarkable.

Tomatoes growing in the path bear an extensive crop, nailed to the wall of a greenhouse. What struck me as being interesting was that the same soil that was originally prepared, about a foot in width and depth, should have carried an annual crop for more than ten years without any addition being made, and the crop now maturing is as heavy as any I have seen this year. They are fed with liquid manure when water is needed. The drought had dealt severely with outdoor flowers, but vegetables looked well.—WANDERER.



RECENT WEATHER IN LONDON.—The drought of summer has gone, and we are getting ample early autumn rains. On Saturday afternoon and evening rain fell in torrents, while Sunday could not be termed other than a wet day, the same conditions prevailing until midday on Monday. After this it was dull, with fine rain at intervals. On Tuesday it was a bright pleasant day; but Wednesday was cold, and a drizzling rain fell the whole morning.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday, October 10th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. At three o'clock a lecture on "The Injurious Scale Insects of the British Isles" will be given by Mr. Robert Newstead, F.E.S.

GARDENING APPOINTMENTS.—Mr. A. Jeffries, formerly of Hatherop Castle and Warren House, and for the past five years foreman at King's Walden Bury, near Hitchin, Herts, has been appointed head gardener to John Balfour, Esq., Moor Hall, Harlow, Essex. Mr. H. E. Kennedy has been appointed (through Messrs. Dicksons, Limited, Chester), head gardener to D. Richards, Esq., The Salacres, Upton, near Birkenhead.

DEATH OF MR. ALFRED HENDERSON.—We regret to learn of the death of Mr. A. Henderson, eldest son of the late Peter Henderson, on September 5th, aged forty-seven years. In 1887 Charles, the younger son of Mr. P. Henderson, was admitted to the partnership in the great New York firm of Peter Henderson & Co. On the death of Mr. P. Henderson, in 1890, the business was incorporated, an interest being given to some old employes in charge of departments. The deceased, who was an excellent man of business, has been head of the firm for many years.

BANQUET TO LIEUT.-COL. W. AND MR. E. WEBB.—On a recent occasion these gentlemen were entertained at a banquet in the Talbot Assembly Room, Stourbridge, under the presidency of Sir H. Foley Lambert, Bart. Though to our readers these gentlemen are best known as of the firm of Messrs. E. Webb & Sons, Wordsley and Kivver, they are known in Worcestershire, and especially in the neighbourhood of Stourbridge, as being ever desirous of promoting and encouraging the best interests of the community. There was a large and most influential company, and an enjoyable evening was passed.

DEVON AND EXETER GARDENERS' ASSOCIATION—AUTUMN SESSION, 1899-1900.—Wednesday, 11th October, Mr. Fletcher, gardener to Col. Halford Thompson, J.P., "Dahlias." Wednesday, 25th October, Mr. G. Stiles, gardener at The Grove, Teignmouth, "A Practical Lesson on Dressing Chrysanthemum Blooms for the Exhibition Table." Wednesday, 8th November, Mr. W. Charley, Wonford House Gardens, "Garden Walks and Drives." Wednesday, 22nd November, Mr. W. Mackay, Royal Nurseries, "Cut Flowers and their Arrangement." Wednesday, 6th December, Mr. J. Reynolds, gardener to Sir Charles D. Caro, Bart., Sidbury Manor, "Winter Flowering Plants—the Cyclamen, the Carnation, and the Euphorbia." Wednesday, 20th December, Mr. F. W. E. Shrivell, F.L.S., Thompson's Farm, Tonbridge, Kent, "Further Experiments with Chemical Manures in Kitchen and Market Gardening."

MOTOR CAR ACCIDENTS—THE LATE MR. W. PICKSLEY.—A copy of the Essex "County Chronicle" has been sent to us containing a report of the inquest on the gardener whose death we announced last week. It appears the driver of the motor car had stopped when the accident occurred, and he rendered all the assistance he could to the terribly injured man. The verdict was "accidental death," the jury adding a rider "that the earnest attention of the authorities be drawn to the many serious accidents which have recently occurred through motor cars;" and not before time, as the county paper mentioned reports no less than six accidents of a more or less serious nature occurring within a week in or around Chelmsford by the motors, with which the district appears to be infested. The coffin of Mr. Picksley was covered with beautiful wreaths from Mr. and Mrs. Miller and other sympathising friends, and borne to the grave by gardeners, and the widow is taken into the home of the family whom her husband served so faithfully and well.

DEATH OF MR. JAMES MARTIN.—It is with the deepest regret that we have to record the sudden death of Mr. Jas. Martin of Messrs. Sutton & Sons, Reading. He passed away after a few hours' illness during the early hours of Wednesday, September 25th. To everyone the announcement came with most painful surprise. Few men in horticulture were more widely known, certainly few could have had more friends. Everybody liked him and admired that geniality of character and intensity of purpose which always marked him. How many hundreds, nay even thousands, accustomed to visit the Reading Nursery will miss him? They will look for him in vain. That marvellous fund of knowledge which he possessed will no more be poured out by him so eloquently as if it were a running fountain. "The trumpet's silver sound is still, The warder's silent on the hill." Surely over his last resting place it would be just to inscribe, "Well done, good and faithful servant."

HARVESTING ONIONS.—When on a recent visit to one of the best kept vegetable and fruit gardens in the south of the "Land o' Cakes" (near Selkirk), I particularly noted a large crop of fine spring Onions collected closely together, and covered with several spare glass lights from the frame yard. These were supported on a framework of stakes and rafters about a foot high, over the Onions, to preserve them from rain during the maturing process prior to storing. Alongside was a fair bed of large autumn sown "winter" Onions not fully matured, their tops being still green.—HARBORNE.

A NOVEL EDGING.—*Apropos* of Mr. George Paxton's reference to the Oak garden walk edging at Eaton Hall (page 265), it may be interesting to remark that at Ettington Park, Stafford-on-Avon, in what was called the "old flower garden," there were two circular beds edged with clipped Oak plants, kept about 12 inches high, and which, owing to the summer shearing, the foliage was retained during the greater part of the winter. If my memory serves me rightly, the species was *Quercus sessiliflora*. The beds in question were connected by an intermediate one edged with the common Irish Ivy, kept trimmed at about 6 inches high. It is upwards of thirty years since I first saw them, and they had, I believe, been planted at least thirty years previously. Their comparatively small, stunted stems and branches—of course rendered so from the restricted growth—were suggestive of those Japanese centenarian trees grown in vases.—W. G.

BRISTOL GARDENERS' ASSOCIATION.—The monthly meeting of the Society was held on Thursday last, at St. John's Parish Room, Redland, Mr. C. Lock presiding over a good attendance. The subject for the discussion was salads, and it was opened in a thoughtful and interesting manner by Mr. E. Binfield, gardener to Francis Tagart, Esq., Old Sneed Park. The aim of the paper was to show how a supply of the principal salads could be maintained during the greater part of the year. To this end Mr. Binfield dealt with the culture of Lettuce, Endive, Beet, Celery, and Cucumbers. He gave in each case his opinion as to the times most suitable for sowing to obtain a succession of crops, the soil best fitted for the several varieties, method of after culture, and the insects to which they were most liable. The paper, which was full of useful information on the important subject, was much appreciated, and at the close Mr. Binfield was heartily thanked. A short discussion, chiefly on the culture of Beet, and the best means to clear the Celery fly, followed the paper. Certificates of merit were awarded Mr. Shaddick for a dish of fine Peaches; Mr. White for a Pitcher plant, and Mr. McCulloch for a specimen of *Odontoglossum grande*.

HAMPSTEAD GREEN.—The Tree and Open Spaces Committee of the Hampstead Vestry have issued a report stating that they have carefully considered a letter from Sir Henry Harben, the Chairman, intimating that upon his recommendation a lady had bought for £7500 the Hampstead Green property recently put up to auction for the sole purpose of enabling the Vestry to make up their minds what they will do with regard to the green or paddock in front of the houses standing on the property, and that if the offers were sufficient she would dedicate the paddock to the public in order that it might be preserved as an open space for ever. In the opinion of the Committee the opportunity now afforded by the generous and public-spirited action of the lady of maintaining the present picturesque and sylvan approach to Hampstead from London should not be lost, and they recommend that the necessary steps be taken for the acquisition of the green and the dedication thereof to the public. It is expected that the owners of property immediately adjoining and facing the green will subscribe towards the purchase, and the lady referred to, who wishes to remain anonymous, has said that she will herself make a contribution to the acquisition of the green.

— **A NEW LAWN SWEEPER.**—Mr. T. Challis, Wilton Park Gardens, sends us beautiful photographs of an improved lawn sweeping and collecting machine, fitted with his patent side delivery apparatus. The appliance, which appears strong and serviceable, is drawn by a horse, and a clean sweep with snug heaps of leaves are shown on the capacious lawn at Wilton, where a good deal of work is required to be well done in a little time.

— **TWIN APPLES.**—*Apropos* of the description and illustration of what is called the Bedfordshire Twin Apple, this freak of Nature appears not to be confined to one variety alone, and I have occasionally found it, especially in the Codlin section, while at the present time I am possessed of one or two examples of Lord Suffield as clearly defined as that illustrated in the *Journal of Horticulture* for September 14th, page 237. Cucumbers occasionally may be seen exhibiting the freak in question. —G.

— **LOWDHAM NURSERIES.**—Intending fruit tree planters would do well to pay a visit to Messrs. Pearson & Sons' new nursery this autumn. It is situated at Lowdham, about eight miles north-east of the town of Nottingham, on breezy hills which doubtless at one time formed the southern fringe of the famous Sherwood Forest. The nursery, on strong clay soil, is about fifty acres in extent, and contains a grand assortment of young fruit trees to suit every possible requirement. All are in clean vigorous condition, including the best of the new varieties. —J. C.

— **APPLE KERRY PIPPIN.**—Thriving well in almost any kind of soil and situation, this Apple is one of the best and most useful in October, its brisk pleasant flavour making it much relished after the rather mealy flesh of the earlier dessert kinds. By any soil I do not, of course, mean badly drained or very poor stations, but it will thrive equally well in a heavy as in a light soil, provided each is properly cultivated. Nor does the form of tree make much difference, for I have seen splendid crops on restricted trees of the espalier order, though of course much better results follow a more natural system. —H.

— **DWARF KIDNEY BEANS.**—Having sown numerous varieties of dwarf Beans in two places for trial, I found one to be a comparative failure, and the other quite, for the season, a success. The difference seems to have been due to the first being on a cold soil and bleak aspect, and a soil that baked hard and dry later, whilst the other was on a warm porous soil, which, whilst dry enough, did at least keep the plants fairly well growing. The varieties were, of speckled seed, Sutton's Perfection Mohawk, Progress (Veitch); of self-coloured dark, Negro, Canadian Wonder, No Plus Ultra, and Canadian Glory or Stringless (Carter), and Magnum Bonum (Sutton); white with dark eye, Victoria White (Webb), White Advancer, Carter's Everbearing; and a Butter Bean—twelve varieties in all. The earliest to ripen off, and all remarkably abundant croppers, were No Plus Ultra, Everbearing, and Perfection. All the rest were rather later and stronger growing, and really showed so little difference in productiveness that there seemed nothing to choose. It was quite a case of feeling happy with either were all the others absent. Perhaps the Butter Bean is not properly put into comparison with the rest, but it cropped remarkably well all the same. My only opportunity of testing productiveness was found in complete seed-pod production, on the whole a very good test. I think dwarf Beans are so good that, with the haulm still dwarf, it will be difficult to excel existing leading varieties. —A. D.

— **LADIES AND THE LEARNED SOCIETIES.**—A correspondent writes:—"The views expressed in a paper by Mrs. Farquharson of Haughton, which was read by Lady Marjorie Gordon at the International Congress of Women a few months ago, with regard to the admission of ladies into the learned societies, have evidently commended themselves to some of the more thoughtful and influential women in the country, and the subject will again be discussed at the first annual general meeting of Lady Warwick's Agricultural Association for Women, to be held in London about three weeks hence. Mrs. Farquharson complained that the Royal, the Linnean, and the Royal Microscopical Societies did not admit women to full membership, and pointed out that the last-mentioned society permitted the election of women as members, but would not allow them to attend the meetings. At the meeting of the Agricultural Association for Women a resolution embodying this opinion will be submitted for approval, and if carried, the ladies will find the means of placing their views before the heads of the societies, who will find it difficult to refuse such a modest and reasonable request. The meeting will take place in Stafford House, the London residence of the Duke and Duchess of Sutherland."

— **HARBORNE VEGETABLE MARROW SOCIETY SHOW, SEPTEMBER 25TH.**—This extensive village enjoys the distinction of possessing the oldest Gooseberry Society in the kingdom, being upwards of eighty years old, while the Horticultural Society is thirty-six years old. The heaviest Marrow exhibited on the recent occasion weighed 40 lb. 13 oz., and it would be interesting to learn what was the weight of the heaviest recorded elsewhere. The fruit in question was sold for 1 guinea.

— **SPRAYING WITH SPIMO.**—Some few weeks since Mr. G. Crook of Forde Abbey, Chard, sent to the Drill Hall for the Fruit Committee haulm of No Plus Ultra and Chelsonian Peas that he had sprayed with what he called "improved spimo." I was much interested with the results of its application, as badly infested Pea haulm with thrips was after one or two dressings or sprayings converted into beautiful green growth, vigorous and healthy. When at Forde Abbey early last month I saw a late row then standing that had been thus sprayed, and it was singularly green and healthy. As growers constantly suffer so much from thrips on crops as well as on Peas, they should give this spimo a thorough testing next season. It has been advertised in the *Journal* by Mr. White, of Beltring, Paldock Wood, Kent. —D.

— **APPLE BLENHEIM PIPPIN.**—I strongly disagree with the aim of the R.H.S. Council in relation to this fine Apple in requiring the prizes at the Palace Show to be given to comparatively small fruits, rather than to those of good medium sized, beautiful samples that were ignored, everybody wondering why. Surely in offering prizes for any variety the fullest consideration should be given to its average size, and everybody knows that Blenheim Pippin is a large Apple. That the largest fruits are too large for dessert there can be no doubt; but such medium samples as were ignored at the Palace were of their kind perfect for dessert. It was again so incomprehensible that some other dessert varieties had prizes awarded to quite big fruits, showing that, untrammelled by footnotes, judges did recognise average character. I hope another year judges will be allowed a free hand in relation to Blenheims. —A.

— **SUSSEX WEATHER.**—The total rainfall at Haywards Heath for September was 3.38 inches, being 0.25 inch above the average. The heaviest fall was 1.75 inch on the 29th. Rain fell on fourteen days. Total for the nine months 21.95 inches, which is 1.88 inch above the average. The maximum temperature was 80° on the 5th; the minimum 35° on the 29th. Mean maximum, 65.08°; mean minimum, 46.04°. Mean temperature, 55.56°; 1.35° below the average. —R. I.

— **SEPTEMBER WEATHER AT DOWLAIS.**—Rainfall, 3.82 inches, which fell on twenty days; greatest fall, 0.83 on the 6th; total for the last quarter, 6.97 inches; for the year, 38.23 inches; for the same periods 1898, 1.78 inches, 7.62 inches, and 25.25 inches. Mean maximum temperature, 60.266°; highest reading, 77° on the 5th, and only rising to 43° on the 30th. Mean minimum, 42.866°; lowest reading, 29° on the 27th and 28th, with the highest night temperature of 56° on the 5th; below freezing point on four nights. There were five sunless days. The wind was in the S.W. and W. on twenty-two days. The wind was very quiet the first part of the month. The temperatures were even, but from the 15th there has been a very decided drop, the wind at times being very strong and cold. —W.M. MABBOTT.

— **METHEOLOGICAL OBSERVATIONS AT CHISWICK.**—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Temperature of the Soil. At 9 A.M.				Lowest Temperature on Grass.
1899.		At 9 A.M.		Day. Night		Rain.				
		Dry Bulb.	Wet Bulb.	Highest	Lowest.		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
September.										
Sunday . 24	W.N.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday . 25	W.N.W.	54.0	47.9	60.9	45.7	0 02	54.6	58.1	59.2	38.3
Tuesday 26	W.N.W.	58.0	52.8	61.1	51.5	0.01	55.9	57.7	59.0	48.8
Wednesday 27	W.N.W.	58.1	51.9	61.7	48.4	—	57.1	58.1	58.9	40.3
Thursday 28	S.W.	54.6	50.6	60.2	47.9	0.11	55.6	58.1	58.6	40.2
Friday . 29	W.S.W.	47.5	44.3	58.8	36.6	—	53.9	57.6	58.4	28.1
Saturday 30	S.S.W.	45.0	44.1	57.3	32.9	0.98	52.1	57.1	58.2	24.4
	S.S.W.	47.2	45.9	55.8	44.9	0.02	53.9	55.3	58.1	35.6
MEANS ..		52.0	48.2	59.4	44.0	Total 1.14	54.7	57.0	58.0	36.5

Cold showery weather, with a thunderstorm on the 27th and a heavy fall of rain on the 29th.

EXHIBITION OF BRITISH-GROWN FRUIT.

CRYSTAL PALACE.—SEPTEMBER 28TH, 29TH, AND 30TH.

SELDOM, if ever, has the Crystal Palace been so crowded with interest to horticulturists as it was during the second half of the week just past, for on those three days the Royal Horticultural Society brought to a most successful issue the annual Show of British-grown Fruit. The Exhibition was this year accommodated in the northern transept, but the fact of the space being limited did not tell materially against the general effect. In past years the exhibits have occupied the two transepts and the centre of the building, and have been very handsome. The change, which necessitated upwards of 100 competitive classes being relegated to back portions, together with practically the whole of the non-competitive exhibits, led many visitors to the conclusion that the Exhibition was much inferior to its predecessors. As a matter of fact, this was not the case, for the number of entries was very little short of last year's total. True, there was a perceptible shortage in the single dish classes, but the collections, both large and small, in the majority of cases showed a material increase, which practically balanced the diminution referred to. The most prominent absentee was Mr. Geo. Woodward of Barham Court, who was unable to show owing to devastation caused by a terrible hailstorm. We hope he will be able to come forward in his customary style next year.

In quality we think it will be agreed that the average was good. There were examples of the highest excellence and the reverse, but neither extreme was greatly in evidence. As a section the nurserymen's must be placed first with Apples as the best individual kind of fruit. These had size and solidity with cleanliness, and in many instances wonderful richness of colour. Pears, Peaches, and Nectarines were also good, but Plums showed a marked falling off from last year's display. Grapes varied considerably in merit, many being of the best, while others were scarcely fit to put on any exhibition board. The arrangements of the Show were most excellent, and reflected the greatest possible credit on the Rev. W. Wilks, also Messrs. S. T. Wright and T. Humphreys, with Mr. Casleton, the garden superintendent of the Crystal Palace, whose duties must have been very arduous. Every individual exhibit in each of the 175 classes could be readily found, as there was scarcely one out of its place. The judging commenced at the appointed time, and was completed well in advance of the opening of the show, which was visited by upwards of 31,000 people.

OPEN TO GARDENERS AND AMATEURS.

UNDER GLASS FRUIT—COLLECTIONS.

The gardeners and amateurs opened the ball with a collection of fruit to consist of nine dishes in six kinds at least, with no two dishes of the same variety. There were only three competitors, and Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Ledbury, proved the victor. The exhibit consisted of fair Muscat of Alexandria and Gros Maroc Grapes, good both in berry and bunch; Countess Melon, a good dish of Ribston Pippin Apples, Barrington Peaches, grand Pitmaston Duchess Pears, Lord Palmerston Peaches, Albert Victor Nectarine, and Coe's Golden Drop Plum. Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., Hutton Hall, Guisborough, followed closely. He had a good Queen Pine, barely ripe; capital Gros Maroc, Foster's Seedling (small in berry) Grapes, good dishes of Bryanston Gage Plums, Prince of Wales and Sea Eagle Peaches, a fine specimen of Scarlet Premier Melon, Humboldt Nectarines, and a good dish of Souvenir du Congrès Pears. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, brought up the rear with excellent bunches of Muscat of Alexandria Grapes, a beautifully finished Queen Pine, well coloured Golden Eagle Peaches, and Coe's Golden Drop Plum.

In the smaller collection of six dishes, from which the exhibitors in the previous class were excluded, at least four kinds had to be shown, and Pines were excluded. There were five entries, and the first prize fell to Mr. A. Maxim, gardener to Col. H. Walpole, Winchfield, with a capital exhibit, which comprised Muscat of Alexandria, beautifully coloured, and grand bunches of Cooper's Black Grapes, a bright dish of Lady Sudeley Apples, a good Melon which looked like Countess, Albert Victor Nectarines, and a splendid dish of the Nectarine Peach. The second prize was awarded to Mr. Jas. Dawes, gardener to M. Biddulph, Esq., M.P., Ledbury, who had good bunches of Gros Maroc and Muscat of Alexandria Grapes, Ribston Pippin Apples, Williams' Bon Chrétien Pears, and Princess of Wales Peaches, while Mr. W. Tidy, gardener to W. K. D'Arcy, Esq., Stanmore Hall, was third with good specimens of Muscat of Alexandria Grapes, Frogmore Scarlet Melon, and fine dishes of Williams' Bon Chrétien Pears and Walburton Admirable Peaches. The judging in this class was severely criticised by competent growers.

GRAPES.

Great interest was evinced in the class for the collection of Grapes, six varieties, two bunches each, for in this class Messrs W. Wood and Son offered a silver challenge cup, value 25 guineas, to be won three years in succession before becoming the property of the exhibitor. There were only three competitors to face the Judges. Mr. J. H. Goodacre was

clearly ahead of his rivals with a strong exhibit. The varieties were Gros Maroc, good in bunch and berry, but lacking colour; Alnwick Seedling, rather small, but beautifully finished; Mu-cat of Alexandria, a pair of handsome bunches; Gros Guillaume, two enormous bunches; well-finished bunches of Mrs. Pince rather deficient in colour, and Black Alicante. Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, was second; his best varieties were Black Alicante, Gros Maroc, and Gros Colman. Mr. F. Cole, gardener to Sir Chas. Russell, Bart., Swallowfield Park, Reading, was third with capital examples of Cooper's Black and Black Alicante.

In the class for three distinct varieties, of two bunches each, there was only one exhibitor, Mr. J. Dawes, who staged excellent examples Gros Maroc; Black Alicante was also of first-rate quality, and the other variety was Muscat of Alexandria.

For three bunches of Black Hamburg there were five entries, and the first prize was awarded to Mr. W. Mitchell, gardener to J. W. Fleming, Esq., Chilworth Manor, Ramsey, with good bunches, well finished. Mr. F. Cole was second, and Mr. J. H. Goodacre third.

For three bunches of Madresfield Court the first prize was awarded to Mr. W. Mitchell. Mr. W. Taylor secured the second place with small bunches; and Mr. W. J. Empson came third with ill coloured berries. Mrs. Pince was represented by two exhibitors, Mr. W. Mitchell again staging splendid bunches, followed by Mr. W. Taylor, who had good bunches of rather small berries. The three bunches of Muscat Hamburg only secured one entry, from Mr. J. H. Goodacre, who was awarded first prize.

As might be expected, the Black Alicante competition brought out some noble bunches. There were eight competitors, but Mr. W. Allan, gardener to Lord Suffield, Guiton Park, secured the first position with grand bunches. Mr. F. Cole was second with well finished examples, and Mr. W. Mitchell third. Lady Downe's was not so strongly in evidence, only five exhibitors staging. Mr. W. Mitchell was again to the front with well finished bunches, Mr. W. Taylor following.

In the class for any other black Grape we always have a good contest, as it proved on this occasion, six boards being entered. The first prize fell to Mr. W. Allan with excellent examples of Gros Maroc. Mr. A. Sadler, gardener to Mrs. Turk, Cowley House, Chertsey, was second with the same variety; and Mr. A. Maxim was third with excellent bunches of Cooper's Black.

Coming to the white Grape classes, Muscat of Alexandria started with four boards. Mr. G. Duncan, gardener to C. J. Lucas, Esq., Wernham Court, Horsham, was placed in the first position with magnificent examples, large in bunch, berry, and splendid in colour. Mr. Edward Skelton, gardener to J. Barker, Esq., Bishop Stortford, followed with long tapering bunches; and Mr. A. Maxim was third. Then we came to Mrs. Pearson with three entries. Mr. T. Osmar, gardener to S. J. Baker, Esq., Ottershaw Park, was first with large bunches of small green berries; and Mr. W. J. Empson followed with better berries and finish, but the bunches were not so large. For three bunches of any other white Grape there were only three entries, Mr. T. Osman being placed first with good bunches of Dr. Hogg. Mr. F. Cole was second with large bunches of Foster's Seedling.

PEACHES, NECTARINES, PLUMS, AND FIGS.

Peaches were represented by nine dishes, Mr. A. Maxim staging a grand dish of the Nectarine, and was awarded first place. Mr. W. Mitchell followed with some fine Sea Eagle. Nectarines brought out three dishes, all of ordinary quality, Mr. F. W. Thomas, Polegate, taking first prize with Spinner; and Mr. W. H. Bacon, gardener to Sir M. Samuel, second with Victoria.

There is only one class for indoor-grown Plums, to consist of three distinct varieties, and there were two exhibitors. Mr. J. Hudson, gardener to L. de Rothschild, Esq., Gunnersbury House, Acton, was first with a splendid exhibit. The varieties were Transparent Gage, Golden Transparent Gage, and Coe's Golden Drop. Mr. J. McIndoe was second with good Reine Claude de Bavay and Bryanston's Gage.

For a dish of Figs there were three entries, but the Judges did not deem any of them worthy of the first prize. Mr. Jas. Hudson was awarded second with Negro Largo, and Mr. W. J. Empson third with the same variety.

COLLECTION OF HARDY FRUIT.

The collection of thirty-six dishes of hardy fruit in distinct varieties to be grown entirely in the open, is one that is closely watched by the exhibitors. There were only two collections staged. Mr. R. Potter, gardener to Sir Mark Collet, Kemsing, Sevenoaks, proved the victor with a capital exhibit. The Apples were represented by grand samples of Stone's Peasgood's Nonesuch, Mère de Ménage, Gloria Mundi, Warner's King, Lady Henniker, Betty Gresson, Cox's Orange Pippin, Washington, Bramley's Seedling, The Queen, Ribston Pippin, Emperor Alexander, Earls Pippin, and Worcester Pearmain. Pears were represented by Duchesse d'Angoulême, Maréchal de Cour, Nouveau Poiteau, Triomphe de Vienne, Beurré d'Angou, Doyenné de Meroni, Pitmaston Duchess, Conférence, Doyenné du Comice, Beurré Bachelier, and Grosse Calabasse. Peaches were good, the varieties including the Nectarine, Osprey, and Lady Palmerston. Pond's Seedling Plums were grand, as were Reine Claude de Bavay, and Coe's Golden Drop. Negro Largo Figs and some excellent Kent Cob Nuts completed the exhibit. Mr. J. Dawes was a good second. Apples and Pears were the best features, of which Norfolk Beefing, Warner's King, Tyler's Kernel, and Peasgood's Nonesuch in the Apples, and Williams' Bon Chrétien, Souvenir du Congrès, and Louise Bonne de Jersey in the Pears were conspicuous.

HARDY FRUITS.

FOR considerably over a century our firm has been noted for the careful cultivation of Fruit Trees, and has built up a reputation by sending out Trees **TRUE TO NAME** and carefully grown. During the past seventeen years we have greatly extended our culture of Fruit Trees, and have given up the cultivation of all General Nursery Stock in favour of these and Roses. The present is an age of specialists, and we fully agree with the popular idea that a person who concentrates his whole attention upon one subject should be better able to deal with it than one who has twenty other matters claiming his attention. We do not wish to sing our own praises, but we cordially invite anyone interested in Fruit Culture to visit our Nurseries and inspect the Stock. We propagate all from trees which have been fruited and proved true to name, and all our trees are kept free from insect attacks, and are as good as careful and scientific culture can make them.

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Fan-Trained, Cordons, Single and Double, Palmettes, &c.

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ESPALIER-TRAINED TREES A SPECIALITY.

WINTER QUARRENDEN (from photo much reduced).

This fine new Apple resembles Devonshire Quarrenden in its best, cleanest, and most highly coloured form, but will keep till December. Not only is this one of the coming Apples for market work, it is equally valuable for the garden of the amateur. Its grand colour and appearance would make it worth growing even if it had not the extra merit of good quality.

Maidens on Paradise, 2/6 each; 2-year bushes, 3/6; 3-year, 5/-; standards, 5/- each.

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ALL NEW VARIETIES STOCKED—MANY CHEAP BARGAINS.
 SHRUBS OF EVERY DESCRIPTION.

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COCOA-NUT FIBRE REFUSE.—6d. per bushel; 100 for 20/-; truck loose (about 2 tons), 60/- Bags, 4d. each.

SPECIALY SELECTED ORCHID PEAT.

LIGHT BROWN FIBROUS PEAT, 5/6 per sack; 5 sacks, 25/-; sacks, 4d. each.

BLACK FIBROUS PEAT, 5/- per sack; 5 sacks, 22/-; sacks, 4d. each.

COARSE SILVER SAND, 1/9 per bushel; 15/- per half ton; 28/- per ton, in 2-bu-hel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1/- per bushel.

SPHAGNUM MOSS, 8/6 per sack.

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ORCHARD HOUSE FRUIT.

After undergoing annual changes the collection of hardy fruit to illustrate orchard house culture appears in a fairly tangible form. Grapes are now excluded, but only one exhibitor staged—namely, Mr. R. Potter, whose display was certainly creditable. The dishes were—Apples, The Queen, Lady Henniker (grand), Peasgood's Nonesuch, Stone's, Cox's Orange Pippin, Jefferson, Gascoyne's Seedling, and Ribston Pippin. Pears were good; the varieties included Beurré Balthé Père, Van Mons Leon Le Clero, Beurré Sterckmans, Doyenné du Comice, Beurré Hardy, Duchesse d'Angoulême, and Beurré Bachelier. Figs were Negro Largo and Rondo Noir; Peaches were excellent, the Nectarine and Lord Palmerston being well staged; while Transparent Gage, Kirke's, and Reine Claude de Bravay were the Plums staged.

OPEN AIR FRUIT—APPLES.

This section of the Show is always interesting, and has a high educational value, as in it are comprised fruits from practically all over the country. Competition varied as usual, some of the classes being particularly strong, while others were correspondingly weak. Apples and Pears were excellent.

Three prizes were offered in the class for twenty-four Apples, distinct varieties, sixteen culinary and eight dessert (the latter to form the front row), and there were seven contestants, of whom Mr. J. McMenzie, gardener to F. S. W. Cornwallis, Esq., M.P., Linton Park, Maidstone, secured the premier position. The stand was a splendid one, and there was not a really weak dish in the whole twenty-four. The culinary varieties comprised Tyler's Kernel, Gloria Mundi, Emperor Alexander, Loddington Seedling, Mère de Ménage, Hornmead Pearmain, Peasgood's Nonesuch, Tower of Glamis, Stirling Castle, The Queen, Golden Spire, Alfriston, Warner's King, Brabant Bellefleur, Golden Noble, and Bismarck. The front row, composed of dessert varieties, included Autumn Pearmain, Gascoyne's Scarlet, St. Edmund's Pippin, Baumann's Red Reinette, Wealthy, Allington Pippin, Fearn's Pippin, and Ribston Pippin (fig. 60). The second prize was taken by Mr. R. Parker, gardener to the Duke of Richmond and Gordon, Goodwood. The best dishes were Grenadier, Lady Henniker, Peasgood's Nonesuch, Gloria Mundi, Stone's, Warner's King, Yorkshire Beauty, Ribston Pippin, Worcester Pearmain, and King of the Pippins. Mr. H. King, gardener to J. Colman, Esq., Gatton Park, Reigate, was third, and showed New Hawthornden, Golden Noble, Peasgood's Nonesuch, Warner's King, and Lord Derby in fine form.

In the class for twelve distinct varieties, eight culinary and four dessert, the premier position was secured by Mr. A. Maxim, gardener to Col. H. Walpole, Heckfield Place, Winchester, who staged a handsome dozen, in which the fruits had size as well as colour. The varieties were Bramley's Seedling, Cellini, Peasgood's Nonesuch, Lady Henniker, Emperor Alexander, Newton Wonder, Alfriston, Cox's Pomona, King of the Pippins, Gascoyne's Scarlet Seedling, Cox's Orange Pippin (poor), Ribston Pippin. Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, was second with an even exhibit, in which Lord Derby, Warner's King, Lord Suffield, Peasgood's Nonesuch, Potts' Seedling, and Ribston Pippin were conspicuous. The South-Eastern Agricultural College, Wye, Ashford, Kent, was second. The best were Peasgood's Nonesuch, Bismarck, Golden Noble, Manks Codlin, and Cox's Orange Pippin (grand). There were seven exhibitors.

There were four competitors in the class for nine dishes distinct, six cooking and three dessert. Mr. J. Dawes, gardener to M. Biddulph, Esq., Ledbury, was first with Lord Suffield, Tyler's Kernel, Warner's King, Peasgood's Nonesuch, Royal Jubilee, Beauty of Kent, Ribston Pippin, Worcester Pearmain, and Cox's Orange Pippin. Mr. W. Jones, gardener to J. B. Brougham, Esq., Carshalton, was second with Warner's King, Hollandbury, and Lady Henniker as his best. Mr. W. Wallace, gardener to H. C. Smith, Esq., Southampton, was third.

Four exhibitors brought six dishes of culinary Apples, and H. H. Hurnard, Esq., Hingham, Norfolk, was first with Mère de Ménage, Peasgood's Nonesuch, Warner's King, Bramley's Seedling, Lane's Prince Albert, and Emperor Alexander. Mr. R. M. Whiting, Credenhill, Hereford, was a good second with Stirling Castle, Frcmore Prolific, Hornmead Pearmain, and Bramley's Seedling as his best. Mr. G. Fennell, gardener to W. M. Cazelet, Esq., Fairlawn, Tonbridge, secured the premier award in the class for three cooking Apples, distinct, with Peasgood's Nonesuch, Castle Major, and Lord Derby. Mr. J. Dawes was an excellent second with Warner's King, Tyler's Kernel, and Peasgood's Nonesuch.

In the class for six dessert Apples, distinct, Mr. W. King was a fine first with Ribston Pippin, Blenheim Pippin, Cox's Orange Pippin, Allington Pippin, Worcester Pearmain, and King of the Pippins, a fine most creditable condition. Mr. H. Cook, Knowle Gardens, Sidmouth, was a fair second, Autumn Pearmain and Rosemary Russet being the best dishes. There were only two entries. There were fifteen exhibitors of three dishes of dessert Apples, distinct, and Mr. G. H. Sage, gardener to Viscount Camden, Bayham Abbey, was first with Washington, Cox's Orange Pippin and Ribston Pippin. Mr. W. H. Godden, gardener to F. W. Buxton, Esq., Sawbridgeworth, was second with Ribston Pippin, Blenheim Pippin, and Cox's Orange Pippin.

PEARS.

There were five competitors in the class for twelve dessert Pears. Mr. R. Potter, gardener to Sir Mark Collet, Bart., St. Clare, Kemsing, Sevenoaks, was an easy first with grand dishes of Beurré Alexandre Lucas, Pitmaston Duchess, General Todtleben, Duchesse d'Angoulême, Nouveau

Poitau, Souvenir du Congrès, Madame Treyve, Madame Chaudry, Beurré Rance, Durondeau, Beurré Diel, and Maréchal de Cour. A protest having been entered on the ground that at least two varieties were orchard house fruit, the prize will be withheld pending Mr. Potter's proof that all specimens were outdoor grown. Mr. W. H. Bacon, gardener to Sir Marous Samuel, Maidstone, was second with Durondeau, Triomphe de Vienne, and Williams' Bon Chrétien as his best. Mr. W. Humphreys, gardener to A. H. Smee, Esq., was third. Mr. W. Jones was an easy first for nine dishes of dessert Pears, showing Beurré Bachelier, Beurré Diel, Pitmaston Duchess, Souvenir du Congrès, Madame Treyve, Maréchal de Cour, Louise Bonne de Jersey, Beurré Superfin, and Urbaniste; all excellently grown. Mr. H. Cook was second.

There were seven exhibitors of six dessert Pears. Mr. G. H. Sage being first with General Todtleben, Beurré Bachelier, Pitmaston Duchess, Gansel's Bergamot, Doyenné du Comice, and Souvenir du Congrès. Mr. W. A. Cook, gardener to Major Heneage, V.C., Compton Bassett, Wilts, was second with smaller but still creditable fruits. Mr. R. Edwards, gardener to G. H. Field, Esq., Breckey Lees, Sevenoaks, was the premier prizewinner in the class for three dessert Pears with Pitmaston Duchess, Madame Treyve, and Doyenné du Comice (superb). Mr. J. Rick, gardener to G. H. Hadfield, Esq., Ross, Hereford, was second with Mario Louise, Maréchal de Cour, and Souvenir du Congrès. Mr. A. Maxim was highly commended. There were ten exhibitors.

For three stewing Pears Mr. W. E. Humphreys was first with Uvedale's St. Germain, Triomphe de Jodoigne, and Oatillac. Mr. H. Cook was second. Mr. R. Potter was first with a single dish of stewing Pears, showing Bellissime d'Hiver in grand form. Mr. C. Ross, gardener to Captain Carstairs, was second with Uvedale's St. Germain. There were twelve dishes staged.

PEACHES AND NECTARINES.

There were six collections of three distinct varieties of Peaches, and many handsome fruits were shown. Mr. A. Maxim was first with Sea Eagle, Gladstone, and Princess of Wales in fine condition. Mr. J. Sparks, Roehampton Lane, Putney, was a close second. Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, was first for a single dish of Peaches with Sea Eagle in remarkable condition. Mr. T. H. Slade, gardener to Lord Poltimore, Exeter, was second with Princess of Wales. There were eleven entries. For a single dish of Nectarines Mr. J. Sparks was first with Victoria, and Mr. C. Earl, gardener to O. E. Goldsmid, Esq., Tonbridge, second with Prince of Wales.

PLUMS AND GAGES.

In the class for four dishes of Plums, distinct, Mr. H. Folkes, gardener to C. E. Strachan, Esq., Hemel Hempstead, was first with Jefferson, Reine Claude de Bavay, Washington, and Cloth of Gold. Mr. R. Chamberlain, gardener to F. M. Lonergan, Esq., Reading, was second with Jefferson, Cox's Golden Drop, Transparent, and an unnamed variety. For a single dish of dessert Plums Mr. T. Spencer, gardener to H. C. Moffatt, Esq., Ross, Herefordshire, was first with Cox's Golden Drop; and Mr. A. Wright, gardener to J. G. Dearden, Esq., Stamford, second with the same variety. Mr. G. Duncan, gardener to C. J. Lucas, Esq., Horsham, was first in the class for a single dish of Gages with Transparent Gage, and Mr. J. Rick second with the same variety.

Mr. J. McIndoe was a splendid first for four dishes of culinary Plums with Archduke, Magnum Bonum, Grand Duke, and Pond's Seedling in fine form. Mr. H. Folkes was a creditable second. Mr. E. Coleman, gardener to T. L. Boyd, Esq., Tonbridge, was first for a single dish of cooking Plums with Pond's Seedling in splendid condition; and H. H. Hurnard, Esq., second with the same variety. For four dishes of Damsons, Prunes, and Bullaces T. Clinch, Esq., Sittingbourne, was first; and Mr. G. Fennell second.

SPECIAL DISTRICT COUNTY CLASSES.

The classes here following are, as the heading of the paragraph implies, limited to growers in certain districts. There is a class in each district for six dishes of Apples (four culinary and two dessert), and also for six dishes of dessert Pears; and in both two prizes were offered of the respective values of—Apples, £1 and 15s., with third class railway fare to London; and Pears, £1 10s. and £1, also with railway fares. This section is evidently gaining in favour with exhibitors, as the competition in several instances was remarkably keen. Representatives from Scotland numbered two only, while not a single exhibit came from Ireland. This was the more regrettable as it precluded the possibility of comparing examples from the three countries.

Growers in Kent.—Mr. W. T. Stowers, gardener to G. H. Dean, Esq., Whitehall, Sittingbourne, was a decided first in the Apple class with Peasgood's Nonesuch, Bramley's Seedling, Warner's King, Lane's Prince Albert, Worcester Pearmain, and Cox's Orange Pippin, all exceptionally handsome. Mr. G. H. Sage was second with Warner's King, Bismarck, Cox's Orange Pippin, and Blenheim Pippin as his best examples. Mr. G. H. Sage also secured the premier position in the Pear class with Beurré Fouquieray, Pitmaston Duchess, Beurré Bachelier, Doyenné du Comice, Gansel's Bergamot, and Souvenir du Congrès. Mr. R. Edwards was second with Pitmaston Duchess, Doyenné du Comice, and Durondeau as his best dishes. In each of these cases there were four competitors.

Growers in Surrey, Sussex, Hants, Dorset, Somerset, Devon, and Cornwall.—Of the seven exhibitors of Apples Mr. W. Camm, gardener to the Duchess of Cleveland, Battle Abbey, was an easy first with splendid examples of Peasgood's Nonesuch, Warner's King, Stone's, Mrs. Barron, Washington, and King of the Pippins. Mr. King was second with good Warner's King, Golden Noble, and Blenheim Pippin. There were four

sets of Pears, of whom Mr. W. Mancey, gardener to A. Benson, Esq., Upper Sutton Park, Merstham, was placed first with handsome examples of Beurré Hardy, Souvenir du Congrès, Durondeau, Pitmaston Duchess, Marguerite Marillat, and Williams' Bon Chrétien. Mr. W. King was second with Doyenné Boussoch, and Souvenir du Congrès as his best.

Growers in Wilts, Gloucester, Oxford, Bucks, Berks, Beds, Herts, and Middlesex.—There were eight stands in this class, and Mr. W. Strugnell, gardener to Colonel Vivian, Rood Ashton, Trowbridge, was an easy first. His varieties were Warner's King, Peasgood's Nonesuch, Bramley's Seedling, Rambour Franc, Cox's Orange Pippin, and Ribston Pippin. Mr. R. Chamberlain was second, and showed Peasgood's Nonesuch, Emperor Alexander, and Cox's Orange Pippin well. Five competitors came forward with Pears, Mr. W. A. Cook being first with Pitmaston Duchess, Doyenné du Comice, Marie Louise, Williams' Bon Chrétien, Louise Bonne de Jersey, and Beurré Diel. Mr. R. Chamberlain was

In the Pear class the same position was maintained. Mr. Wright staged Williams' Bon Chrétien, Durondeau, Van Mons Leon Leclerc, Beurré Diel, Louise Bonne de Jersey, and Marie Louise. Mr. W. H. Divers would easily have been first had he not included Beurré Clairgeau, which the R.H.S. does not regard as a dessert Pear.

Growers in Worcester, Hereford, Monmouth, Glamorgan, Carmarthen, and Pembroke.—Mrs. Blashill, Bridge Sollers, Hereford, was first in this section with some grand Apples. The varieties were Warner's King, Peasgood's Nonesuch, Emperor Alexander, Golden Noble, Aiam's Pearmain, and Cox's Orange Pippin (small). Mr. R. M. Whiting was a good second with Bramley's Seedling, Peasgood's Nonesuch, Stirling Castle, Tyler's Kernel, Cox's Orange Pippin, and Egremont Russet. There were four competitors. In the Pear section there were three exhibitors, of whom Mr. John Rick was placed first with Pitmaston Duchess, Souvenir du Congrès, Conseiller de la Cour, Durondeau, Marie Louise, and Beurré Hardy.



Photo by Miss H. C. C.

Crystal Palace.

FIG. 58.—MESSRS. T. RIVERS' FRUIT TREES IN POTS.

second. He had Clapp's Favourite, Pitmaston Duchess, and Doyenné du Comice.

Growers in Essex, Suffolk, Norfolk, Cambridge, Hunts and Rutland.—There were only three staggers of Apples, and H. H. Hurard, Esq., was first with Cox's Pomona, Emperor Alexander, Peasgood's Nonesuch, Lord Derby, Cox's Orange Pippin, and Ribston Pippin. Mr. A. Andrews, gardener to Hon. W. Lowther, Wickham Market, was second with fine Mère de Ménage, Bramley's Seedling, and Lane's Prince Albert. Mr. W. Allan, Gunton Park, Norwich, was first with Pears, showing Pitmaston Duchess, Beurré Diel, Williams' Bon Chrétien, Marie Louise d'Uccle, Marie Louise, and Thompson's. Mr. A. Andrews was a fairly close second.

Growers in Lincoln, Northampton, Warwick, Leicester, Notts, Derby, Staffs, Shropshire, and Cheshire.—Mr. A. Wright staged well in this class, showing Mère de Ménage, Warner's King, Lord Derby, Peasgood's Nonesuch, Worcester Pearmain, Cox's Orange Pippin, for first place. Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, was second with fine Mère de Ménage, Stirling Castle, and Warner's King.

Mr. T. Spencer was second with good dishes of Souvenir du Congrès, Doyenné du Comice, and Durondeau.

Growers in the other Counties of Wales.—Mr. R. T. Jones, gardener to R. D. Hughes, Esq., Middle Lane, Denbigh, was first with Norfolk Beefing, Blenheim Pippin, D. T. Fish, Wareham Russet, Dutch Mignonne, and Ribston Pippin. Mr. H. Austin, gardener to S. F. Pugh, Esq., Aberystwith, was second. No prize was awarded for Pears, which were very inferior.

Growers in the six Northern Counties of England, and in the Isle of Man.—Mr. Garstang, gardener to J. Garside, Esq., Larbreck, Gt. Eccleston, was the only exhibitor in this class, and received first prize with Annie Elizabeth, Grenadier, Lane's Prince Albert, Scotch Bridget, and Worcester Pearmain.

Growers in Scotland.—Mr. J. Day, gardener to Earl of Galloway, Garlieston, N.B., sent six fine dishes of Apples, the varieties being Yorkshire Beauty, Warner's King, Peasgood's Nonesuch, Mère de Ménage, Lady Sudeley, and James Grieve. Mr. J. McKinnon, gardener to W. Millar, Esq., Roundelwood, Crieff, was second. Mr. J. Day also

scored with *Pearr*, showing *Souvenir du Congrès*, *Gratioli de Jersey*, *Marie Louise d'Uccle*, *Doyenné Boussoch*, *Madame Treyve*, and *Pitmaston Duchess*.

DESSERT APPLES—SINGLE DISHES.

Upwards of thirty classes are devoted to single dishes of dessert Apples, and all the very best varieties are represented by the finest produce in the kingdom. The section is always popular, and on different occasions has comprised fruit of exceptional excellence. At the present show the display, as a whole, was excellent, though the entries were not quite so numerous as customary. It will be observed that there were no exhibits in a few classes of the less popular Apples.

Adam's Pearmain.—There were four dishes in this class, all of good quality. Mr. W. Cornelius, gardener to H. H. Williams, Esq., Truro, was placed first with typical examples. Mr. W. Camm was a good second.

Brownlee's Russet.—Of this variety there were four dishes, of which Mr. E. Colman, gardener to T. L. Boyd, Esq., North Frith, Tonbridge, showed the best clean even fruits; while Mr. G. H. Sage was second with slightly smaller examples.

Claygate Pearmain.—Mr. R. M. Whiting went to the front with this excellent Apple with a splendid dish of small fruit. Mr. W. H. Godden was second with larger, but imperfectly coloured specimens. Four exhibitors were represented.

Cockle's Pippin.—Three growers staged in this class, and Mr. A. Carter, Billingshurst, Sussex, was an easy first with perfect examples. Mr. S. Kidley, gardener to W. A. Sanford, Esq., Wellington, Somerset, also showed well for second place.

Court Pendu Plat.—Mr. W. Lintott, gardener to W. Greenwell, Esq., Marden Park, Surrey, staged best in this class, having beautiful fruits. Mr. R. Chamberlain's second prize dish lacked brightness.



Photo by Russell & Sons

Crystal Palace.

FIG. 59.—MESSRS. BUNYARDS' COLLECTION OF HARDY FRUITS.

Allen's Everlasting.—Mr. W. H. Godden, gardener to F. W. Buxton, Esq., Pishobury, Sawbridgeworth, was the only exhibitor here, receiving the first prize for very poor specimens.

Allington Pippin.—Mr. C. Ross annexed the premier position with this excellent variety, having medium sized, well coloured fruits. Mr. R. M. Whiting was second with also creditable samples. Five dishes were staged.

Baumann's Red Winter Reinette.—Seven growers came forward with this Apple. Mr. C. Ross was a decided first, showing handsome specimens. H. H. Hurnard, Esq., was second with smaller but clean and beautifully coloured fruits.

Blenheim Orange.—In this section the schedule stipulates that small, highly coloured fruits should be shown, and some of the twenty-one dishes were excellent. Mr. R. Chamberlain was first with fruits in perfect condition for dessert. Mr. C. Earl, gardener to A. E. Goldsmid, Esq., Tonbridge, following with a half dozen fruits that only lacked evenness. More than one exhibitor in this class showed fruit far too large for dessert.

Cox's Orange Pippin.—As might naturally be expected this was a tremendously strong class, there being thirty-three exhibitors. Mr. W. King, however, was an emphatic first with a dish in which each fruit was perfect. Mr. Slade of Poltimore was second, but he could not have been much ahead of Mr. J. Stevens, gardener to W. McKenzie Bradford, Esq., Morpeth.

L'Aray Spice (Buddow Pippin).—There was not a single exhibitor in this class.

Duke of Devonshire.—Six contestants came forward here, and Mr. John Rick was an easy first. Mr. G. H. Sage was second, with smaller and less even fruits.

Egremont Russet.—Mr. R. M. Whiting, who secured the premier award, had beautifully finished fruits. Mr. T. Spencer was second with by no means typical examples.

Fearn's Pippin.—This Apple was represented by a baker's dozen of dishes. Mr. W. T. Stowers, gardener to G. H. Dean, Esq., Sittingbourne, was first with superb fruits. Mr. J. McKenzie was a splendid second.

Guscony's Scarlet Seedling.—As in the case of one or two others, small

fruits must be chosen of this handsome Apple. As a dessert Apple this may not be first-rate, but for size and colour Mr. T. Clinch's specimens from Sittingbourne were all that could be wished. Mr. T. H. Slade was second. As in the class for Blenheim Pippin several fruits were too large for dessert.

Golden Reinette.—Not a single grower came forward with this Apple.

Gravenstein.—There were three dishes here, and Mr. W. Camm secured premier position with clean, highly coloured fruits. Mr. T. W. Herbert, gardener to J. B. Charlesworth, Esq., Red Hill, was second with an uneven dish of paler specimens.

James Grieve.—Though this Apple is growing in popularity there were only two exhibitors, of whom Mr. J. Day was first with well finished examples, and Mr. C. Earl, with paler fruits, second.

King of the Pippins.—The fifteen dishes of this popular Apple varied considerably in merit. Mr. J. McKenzie received the first prize, and Mr. W. T. Stowers the second, the latter having a decidedly even and superior half dozen. Mr. Strugnell showed a beautiful dish.

King of Tompkins County.—Five came forward here, Mr. A. Maxim securing premier position with very even fruits. Mr. J. Treadwell, gardener to Surgeon-General C. Planck, Edenbridge, was an extremely close second.

Lord Hindlip.—This Apple was not represented.

Mabbott's Pearmain.—Mr. C. Earl had well nigh perfect examples in this class, and was placed first. Mr. D. McAlinsh, gardener to C. P. Wykeham-Martin, Esq., Leeds Castle, Maidstone, was a creditable second.

Mannington's Pearmain.—Mr. J. McKenzie's examples of this Apple were remarkable alike for size and colour, and as only four specimens remained on the plate, it may be taken that they were of attractive flavour. Mr. R. Potter was second. There were five competitors.

Margil.—Fourteen exhibitors came forward with Margil. Mr. J. McKenzie secured the second position. Mr. C. Ross also showed splendidly. The first prize was apparently withheld.

Mother (American).—Mr. R. M. Whiting was the first of the eight here with small but beautifully formed, clean, and coloured fruits. Mr. J. Treadwell, was second with larger fruits. Mr. T. Spencer must have been extremely close.

Ridgton Pippin.—Thirty-one growers faced the Judges with this excellent Apple, and amongst them were some superb examples. Mr. W. King for first place showed highly coloured fruits of small size. Mr. G. H. Sage was second with larger specimens. Mr. J. McKenzie also showed well.

Rosemary Russet.—Mr. W. Camm was first with finely finished fruits of average size, Mr. R. Cock, Ktowel Gardens, Sidmouth, being second with less attractive specimens. Mr. R. M. Whiting had a good but uneven dish.

Ross Nonpareil.—Messrs. J. McKenzie and G. H. Sage were the only contestants in this class, and the former was easily first with brightly coloured fruits of good size.

Scarlet Nonpareil.—Mr. J. Hudson, gardener to L. de Rothschild, Esq., Gunnersbury House, Acton, was the only exhibitor here, and was deservedly awarded the premier prize.

Sturmer Pippin.—Of the six exhibitors of this late Apple, Mr. R. Chamberlain, with full sized rather rough fruits, was first; and Mr. C. Ross, with smaller, cleaner and better coloured examples, second.

Wealthy.—Mr. R. M. Whiting for the first place showed grand fruits in this class; they were symmetrical and beautifully coloured. Mr. J. Allan, gardener to G. H. Field, Esq., Tunbridge Wells, was second with smaller specimens.

Winter Quarrenden.—Two classes were provided for this Apple, but in neither case was there a single exhibit.

Worcester Pearmain.—This popular Apple was represented by eighteen dishes, the majority of which were good. Mr. W. King, with remarkably coloured fruits, was first; and Mr. G. Duncan second.

Any other variety.—Eighteen dishes were staged in this class. Mr. C. Ross was first with the new Thomas Andrew Knight, and Mr. G. Wythes second with Golden Russet.

COOKING APPLES—SINGLE DISHES.

Generally speaking this is one of the most popular sections of the whole exhibition, being attractive alike to growers and visitors. Some of the specimens were to all intents and purposes perfect, but as might be expected others were decidedly inferior. It will be observed that the competition was very keen in some classes.

Alfriston.—Six growers sent Alfriston, but Mr. T. Spencer was a good first with splendid fruit. Mr. Jas. Allan followed with smaller specimens, having rather more colour. Mr. G. Wythes also staged a very creditable dish.

Beauty of Kent.—In this class there were five exhibitors, of whom Mr. R. Chamberlain was placed first with large but rather uneven and dull fruits. Mr. B. M. Whiting was second with a lighter dish of even and better coloured fruits.

Belle de Pontoise.—There were three exhibitors of this Apple, and Mr. J. McKenzie was first with large, handsome fruits. Mr. A. Maxim was second with smaller examples.

Bismarck.—Mr. S. W. Sweet, St. John's, Ipswich, was first with a grand dish of fruits, rich in colour, and of large size. Mr. W. T. Stowers was second with smaller but very bright fruits. Mr. R. M. Whiting showed handsomely.

Bramley's Seedling.—Each of the three prizes in this class were given by Mr. H. Merryweather, Southwell, Notts, and the produce was grand. There were sixteen competitors, of whom Mr. H. Cook was first with

magnificent fruits. Mr. C. Ross second with almost equally fine specimens, and Mr. W. Humphrey, gardener to A. H. Smee, Esq., was a close third.

Cellini.—Mr. T. H. Slade was a most decided first here with large fruits of the richest colour. Mr. W. Wallace, gardener to H. C. Smith, Esq., Roehampton, was second with smaller but equally shapely and bright fruits.

Cox's Pomona.—Of this well known Apple there were eleven entries, Mr. W. T. Stowers was first with large pale fruits, Mr. W. King second with smaller but grandly coloured fruits. Mr. J. McKenzie also staged strongly.

Dumelow's Seedling.—This splendid late Apple is known in various parts of the country as Wellington and Normanton Wonder, and the number of dishes staged was fifteen. Mr. W. Camm was first with averaged sized, well coloured fruits. Mr. W. King was a dangerously close second. Handsome dishes came also from Messrs. T. W. Herbert, A. Wright, and C. Ross.

Ecklinville Seedling.—There were seven dishes here, Mr. W. T. Stowers being first with clean, medium sized fruits. Mr. A. Andrews was a good second.

Emperor Alexander.—Mr. J. McKenzie showed superbly for first prize in this class. Mr. W. T. Stowers was second with paler fruits. Mr. W. Wallace sent a fine dish.

Golden Noble.—Nine dishes of this handsome Apple were tabled, the best coming from Mr. J. McKenzie. Mr. W. T. Stowers was second with larger specimens not so well coloured. Two or three others staged well.

Golden Spire.—Mr. J. McKenzie was the only exhibitor, and received the premier prize with excellent fruits.

Grenadier.—Four dishes of Grenadier were sent, the best coming from Mr. J. McKenzie, who had handsome fruits. Mr. A. Maxim was a good second.

Hawthornden (New).—Mr. T. W. Herbert had a handsome dish, and annexed the chief position. Mr. C. Earl was second with smaller but brighter fruits. Mr. J. McKenzie had a creditable dish.

Lane's Prince Albert.—Eleven dishes were shown of this fine Apple, Mr. W. T. Stowers being first with beautiful fruits. Mr. C. Ross was a highly creditable second.

Lord Derby.—Handsome fruits gained Mr. W. T. Stowers the principal position. Mr. R. M. Whiting was a poor second. Messrs. C. Ross and G. H. Sage were remarkably strong in this class.

Lord Grosvenor.—Mr. R. M. Whiting was a thoroughly good first with typical fruits. Mr. C. Herrin, gardener to J. B. Fortescue, Esq., Dropmore, with clean, smaller fruits, was second.

Lord Suffield.—Five entrants came before the Judges, and Mr. J. Treadwell, with firm, bright fruits was first, followed by Mr. A. Wright with smaller, greener fruits.

Mère de Nénage.—Mr. C. Ross was first, and Mr. J. McKenzie second, but there was little to choose in point of merit. Mr. G. Hagon and Mr. W. T. Stowers also showed strongly.

Newton Wonder.—Messrs. J. R. Pearson & Sons were the donors of the prizes in this class, which was limited to growers in Cardigan, Radnor, Shropshire, Stafford, Warwick, Northampton, Bedford, Cambridge, Essex, and counties north thereof. Mr. H. H. Harnard was a grand first with even, richly coloured fruits. Mr. W. H. Divers was a creditable second.

Newton Wonder.—This class was for the benefit of those living south of the counties enumerated in the class immediately preceding. Mr. H. Cook was first of the six growers with fine but dull specimens. Mr. R. Potter was second with brighter fruits. Mr. J. Treadwell showed a splendid dish.

Peasgood's Nonesuch.—Mr. J. McKenzie was first, and Mr. W. T. Stowers second, both showing magnificent fruits, handsome in size and colour. The competition was not so close in this class as might have been anticipated.

Potts' Seedling.—There were nine dishes in this class. Mr. J. McKenzie was first, and Mr. R. Chamberlain second, both showing clean, typical fruits.

Royal Jubilee.—There were only three dishes of this Apple, and Mr. C. Ross was easily first with bright, handsome fruits. The second prize dish was also good, but had no name on it.

Sandringham.—Mr. J. McKenzie had a perfect dish, and was a most easy first. Mr. T. Spencer was second with smaller and uneven fruits.

Queen Caroline (Spencer's Favourite).—Two growers only brought this attractive Apple. Mr. G. H. Sage was first, and Mr. W. Jones, with smaller brighter fruits, second.

Stirling Castle.—Of the nine exhibitors in this class Mr. R. M. Whiting was placed first, and Mr. C. Ross second, both with beautifully finished fruits. Messrs. J. McKenzie and W. Messenger, gardener to C. H. Berners, Esq., Ipswich, showed well.

Stone's (Loddington Seedling).—Mr. C. Ross was decidedly first in this class with a handsome dish. The second prize went to Mr. J. McKenzie with a more uneven dish. Mr. W. Camm also showed very strongly.

Striped Beefing.—This Apple was not represented in this section of the show.

The Queen.—Mr. W. T. Stowers went to the front here with average sized, clean, well-coloured fruits. Mr. A. Maxim was a good second, Mr. E. Coleman also showing well.

Tower of Glamis.—Five exhibitors faced the Judges in this class, the prizewinners being Messrs. G. Hagon, gardener to E. A. Lee, Esq., Fowley, Liphook, Hants, and J. McKenzie, in the order named.

Waltham Abbey Seedling.—There were only four dishes of this variety, and Mr. C. Ross captured the premier award with a grand exhibit. Mr. W. Camm was a good second.

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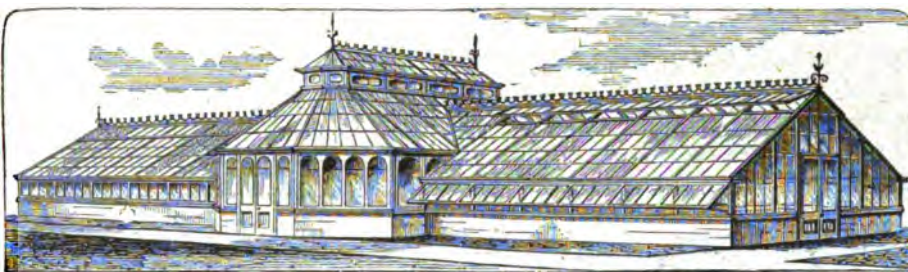
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Warner's King.—There were ten exhibitors of this Apple. Mr. J. Harris, gardener to P. Crowley, Esq., Croydon, was first with grand fruits. Mr. W. H. Davies, gardener to A. W. Wright, Esq., Newent, was second with remarkably coloured examples. Messrs. W. T. Stowers, W. Harrison, and Mr. W. H. Godden also showed well.

Any other variety.—Eleven growers came forward. Mr. J. Dawes was first with exceptionally fine Tyler's Kernel. Mr. C. Ross was second with Harvey's Wiltshire Defiance.

DESSERT PEARS—SINGLE DISHES.

From an educational point of view the Pear classes are valuable, as fruits vary so considerably that it is only by close comparison of specimens from various districts that the leading characteristics can be grasped. Many of the exhibits were of the highest excellence.

Beurré Rose.—Seven exhibitors staged in this class, Mr. F. Friend taking first place with a good even dish. Mr. A. Smith was second, and Mr. J. Harris followed closely.

Beurré d'Anjou.—There were only three entries here, and the first prize was awarded to Mr. R. Chamberlain with a handsome dish. The second prize fell to Mr. G. H. Sage, with larger but greener fruits.

Doyenné du Comice.—As might be expected the competition in this class was good, Mr. W. H. Bacon taking the blue ribbon with a capital dish. Mr. W. Harrison was second, and Mr. Webb had also a good exhibit.

Duchesse de Bordeaux.—Mr. E. Coleman was the only exhibitor here, and was adjudged the first prize for well developed fruit.

Durondeau.—In this class there were eight entries. Mr. W. H. Bacon again scored a first with large well coloured fruit. Mr. T. Spencer being second. Good dishes were also contributed by Messrs. W. H. Godden and R. Chamberlain.

Easter Beurré.—Two excellent exhibits of this Pear were sent, Mr. W. Jones securing first prize, and Mr. J. Nicholson, gardener to J. W. Meller, Esq., Sewardstone, brought up the rear.

Emile d'Heyst.—This excellent Pear was also represented by two dishes, Mr. W. Allan being placed first with large even fruits, and Mr. D. McAnish second.

Fondante d'Automne.—Mr. W. H. Godden was placed in the first position here, and Mr. W. Allan second. There was little to choose between the respective examples.

Gloire Morceau.—There were only three entries, and Mr. J. Sparks was clearly ahead. Mr. R. Chamberlain followed with smaller fruits.



Photo by Russell & Son.

Crisal La'ace.

FIG. 60.—MR. J. MCKENZIE'S COLLECTION OF APPLES.

Beurré Diel.—This handsome Pear was well shown, though only four dishes were staged. Mr. W. Allan was placed first, and Mr. G. Wythes second. This decision was severely criticised, as the latter appeared to be much superior to the winner.

Beurré Dumont.—Not a single representative of this variety was staged in this section.

Beurré Foutqueray.—Here we had only two entries, Mr. G. H. Sage being first with a handsome dish, Mr. J. Hudson was second.

Beurré Hardy.—This fine Pear was in excellent form, though there were only four dishes. Mr. W. Allan was first with clean well-grown fruit, while Mr. W. T. Stowers was a good second.

Beurré Superfin.—Here again there were four contestants. Mr. A. H. Rickwood was well ahead, and Mr. T. H. Slade followed with well-coloured fruit. Mr. T. Spencer also staged creditably.

Comte de Lamy.—Mr. J. W. Herbert had the best dish out of five competitors who contributed this good flavoured variety, and was followed by Mr. W. Allan.

Conference.—This is an attractive looking fruit, and it was well staged. Mr. J. Hudson was awarded premier honour, with Mr. J. Friend second.

Maréchal de Cour.—There were only three entries, and Mr. R. Chamberlain was awarded first for an even dish, Mr. C. Ross following with larger, though somewhat uneven fruit.

Josephine de Malines.—A better display was made here, as there were six dishes. Mr. W. Jones was awarded first prize, closely followed by Mr. C. Ross. Mr. G. H. Sage also staged creditably.

Le Lectier.—Mr. W. Jones had an excellent dish of this variety, and secured the first prize. He was the only contributor to the class.

Louise Bonne de Jersey.—This came out well with eleven entries. The first prize went to Mr. G. Wythes for a handsome dish, Mr. W. A. Cook being a good second. Messrs. Coleman and Godden had capital dishes.

Marie Benoist.—This brought three competitors, and Mr. W. H. Godden was easily first, though Mr. J. Nicholson made a very creditable second.

Marie Louise.—Five competitors exhibited this popular Pear, Mr. W. Allan taking premier position, and Mr. R. Moore, B. th, second.

Marguerite Marillat.—This was splendidly staged. Mr. F. W. Thomas, Polegate, was first with a grand dish, worthily followed by Mr. T. H. Slade.

Nouvelle Fulsie.—This excellent, though somewhat unattractive looking Pear, brought only three entries. Mr. F. W. Thomas was an easy winner, and Mr. G. Wythes second.

Olivier de Serres.—There were only two exhibitors here, Mr. C. Harris, gardener to O. A. Smith, Esq., East Grinstead, being first, and Mr. E. Coleman second.

Pitmaston Duchess.—Seventeen growers brought this handsome Pear. Mr. C. Morgan, gardener to S. J. Du Croz, Esq., Weybridge, was placed first with a clean heavy dish of green fruits. Mr. J. Webb, gardener to H. Padwick, Esq., Horsham, was second with still greener specimens. Messrs. W. Lintott, J. Stevens, and C. Harris had splendid dishes.

Seckle.—There were seven dishes, and Mr. C. Ross easily secured premier award. Mr. J. Sparks was a fair second.

Souvenir du Congrès.—There were four dishes of this handsome but comparatively useless Pear. Mr. C. Herrin, with very thick and heavy fruits, was first, Mr. F. W. Thomas, Polegate, second, he also showing well.

Thompson's.—Mr. W. Allan had the best six of this excellent Pear. Mr. J. Hudson was a fair second.

Winter Nelis.—Six growers brought this Pear. Mr. R. Chamberlain was first with a very even dish. Mr. J. Webb was a good second. There was only one weak dish in the class.

Any other variety.—In this class there were seventeen dishes. Mr. W. Allan, Gunton Park, was first with fine Williams' Bon Chrétien. Mr. W. T. Stowers was second with Duchesse d'Angoulême. Mr. W. Lintott showed Madame Treve in good form.

NURSERYMEN'S SECTION.

One great attraction at this exhibition is undoubtedly the division devoted to nurserymen only, for it is here that we see the finest display of fruit. The tables were arranged differently from previous years, and the alteration appears to be in the wrong direction, for the tables did not present such an artistic appearance as last year. In the largest class, a space of 48 feet run by 6 feet wide of tabling, in which no basket or dish may be duplicated, it may be inferred that only our largest fruit tree specialists can compete. Messrs. G. Bunyard & Co., Maidstone, secured a gold medal. The exhibit was a remarkable one in every way. The centre was occupied with a wickerwork arrangement filled with eight cones of choice Apples. Round the larger hung bunches of outdoor Grapes, while the stand itself was covered with trails of Smilax surmounted with a Palm. Coming to the actual dishes themselves, the Apples and Pears formed the chief display, and the most conspicuous in the former were Peasgood's Nonesuch, Lord Derby, Stirling Castle, Gloria Mundi, Yorkshire Beauty, Jas. Grieve, King of the Pippins, Warner's King, Bismarck, Washington, Wealthy, Grenadier, Williams' Favourite, The Queen, Withington Fillbasket, and Ribston Pippin. The Pears were wonderfully fine, especially Williams' Bon Chrétien, Beurré Baltet Père, Marguerite Marillat, Princess, Triomphe de Vienne, General Todtleben, Pitmaston Duchess, and Dr. Jules Guyot. The remainder of the exhibit comprised Dutch Medlars, Kent Cob Nuts, Shepherd's Bullace, Prune Damsons, Pond's Seedling Plums, Baldwin's Black Currants, Gladstone Peaches, Bradley's King Damsons, Farleigh Damsons, Walnuts, and Monarch Plums. It will be seen that the exhibit was not only good, but also comprehensive (fig. 59).

Mr. H. Berwick, Sidmouth, was awarded a silver-gilt Knightian medal in the same class for a tastefully displayed exhibit. The Apples were especially clean and well coloured. The chief varieties included Emily Childs, Cellini Pippin, Withington Fillbasket, King of Tompkins County, Gravenstein, Lady Sudeley, Peasgood's Nonesuch, Hollandbury, Barnack Beauty, Jefferson, Newton Wonder, Bismarck, and Wealthy. The best Pears were Pitmaston Duchess, Prince Consort, Uvedale's St. Germain, King Edward, and Beurré Hardy.

In this class Messrs. Jas. Veitch & Sons, Ltd., staged a grand collection of Apples and Pears in dishes and baskets. The fruits were well coloured and of good size. Those most notable were Warner's King, Peasgood's Nonesuch, Stone's Cellini, Bramley's Seedling, Chelmsford Wonder, Worcester Pearmain, King of Pippins, Newton Wonder, Devonshire Quarrenden, and Ribston Pippin. The baskets of Pears were excellent, and included Duchesse d'Angoulême, Chas. Ernest, Beurré Diel, Marie Louise, and Beurré Fonqueray. Fruiting plants of St. Joseph Strawberry were included, as were a few dishes of Plums and Crabs. There were probably nearly 300 varieties of fruit in the collection (silver-gilt Knightian medal) fig. 57.

In the class for a table 32 feet long by 6 feet wide the exhibitors in the previous class were excluded, so brings forth a new list of winners and competitors. The Royal Jersey Horticultural Society was awarded a silver Knightian medal for a grand exhibit of fruit, in which the Pears naturally predominated. The best were Williams' Bon Chrétien, Doyenné du Comice, Catillac, Belle de Jersey (immense), Lucie Anderson, Pitmaston Duchess, Chaumontel, and Beurré Clairgeau. Apples, Tomatoes, Water Melons, Pomegranates, and Nuts completed an interesting display.

A silver Knightian medal was awarded to Mr. John Watkins, Pomona Nurseries, Hereford, for a collection of grandly coloured fruit, Apples being particularly noteworthy in this respect. The best were Red Bietigheimer (a wonderful colour), Peasgood's Nonesuch, Hitchin Pippin, Pomona's Pride, Jolly Miller, The Queen, Wealthy, Tewkesbury Baron, Lady Sudeley (grand), and King of Tompkins County. Mr. J. B. Colwill, Sidmouth, presented a splendid display of fruit, and was awarded a silver-gilt medal. The most noteworthy dishes were Tyler's Kernel, Cox's Pomona, Jubilee, Cox's Orange Pippin, Lord Suffield, Peasgood's Nonesuch, Eoklinville Seedling, The Queen, and Yorkshire Beauty. There were also Pears, Plums, and Medlars.

Messrs. Paul & Son, Cheshunt, staged a collection of Apples and Pears, which were clean and bright. Good examples of Lord Suffield, Gascoyne's Scarlet Seedling, Emperor Alexander, The Queen, Yorkshire Beauty, and Summer Strawberry were to be seen, and a silver Banksian medal was awarded. Messrs. J. Cheal & Sons, Crawley, displayed a

beautiful collection of Apples, in which the following varieties were most noteworthy—Bismarck, Emperor Alexander, Royal Jubilee, Prince Albert, The Queen, New Hawthornden, Newton Wonder, Cox's Pomona, and Peasgood's Nonesuch. This exhibit was awarded a silver Banksian medal. Messrs. J. Peed & Sons, Norwood, arranged an excellent display of Apples and Pears, tastefully interspersed with Palms. The fruits were clean and of good colour, and were awarded a silver Knightian medal. A well displayed exhibit was that from Mr. G. Mount, Canterbury. The chief features were the baskets of Apples, which included Cox's Orange Pippin, Lord Derby, Cox's Pomona, Peasgood's Nonesuch (grand), Mère de Ménage, Royal Jubilee, and Warner's King, while good samples of Beurré Hardy, Beurré Diel, Williams' Bon Chrétien, and Pitmaston Duchess Pears were observed. A silver Banksian medal was awarded.

The following class was for a table 16 feet long, and the same width as in the previous classes. Messrs. Powtress Bros., Tillington, Hereford, arranged a noteworthy exhibit. The chief features were again the Apples, which included Cox's Pomona, Beauty of Kent, Emperor Alexander, Peasgood's Nonesuch, Stone's Cox's Orange Pippin, Worcester Pearmain, and Grenadier. It is worthy of note that these fruits were grown in the garden of the celebrated Thomas Andrew Knight (silver Banksian medal). Messrs. S. Spooner & Sons, Hounslow, staged well. The baskets of Apples included some well coloured fruits of Bramley's Seedling, Crimson Queening, Lord Derby, and Worcester Pearmain. A bronze Knightian medal was awarded. Messrs. R. C. Nottcutt, Woodbridge, arranged a display of Apples and Pears in dishes. The most noteworthy examples were Dredge's Fame, The Queen, Lord Derby, Worcester Pearmain, Bramley's Seedling, and Barnack Beauty. The Pears included Winter Orange, Fertility, Catillac, and Gratioli de Jersey, in splendid condition (bronze Knightian medal).

Messrs. T. Rivers & Son, Sawbridgeworth, were awarded a silver Knightian medal for a grand exhibit of Apples, Pears, Plums, Damsons, Bullaces and Medlars. The Pears and Apples were splendid. Warner's King, Mère de Ménage, Worcester Pearmain, Gascoyne's Scarlet, Camenal, and Ribston Pippin were the best Apples; while Pears comprised well grown examples of Souvenir du Congrès, Beurré Hardy, Princess, Magnate, Parrot, Conference, and Doyenné Boussoch. The Plums included boxes of Pond's Seedling, Monarch, Late Black Orleans, Wyedale, Autumn Compôte, President, Primate, Admiral, and Late Orange, a really fine collection. Messrs. W. & J. Brown, Stamford, also staged a collection of Apples and Pears, arranged with a few table plants. The best dishes were Uvedale's St. Germain, Catillac, Emile d'Heyat, Pitmaston Duchess, Beurré Clairgeau, and Durondeau in the Pears; Wadhurst Pippin, Lord Derby, Barnack Beauty, and Mère de Ménage Apples.

Mr. John Basham, Bassaleg, Newport, Mon., staged a fine table of Apples and Pears. The former were wonderfully clean and well coloured, especially Crimson Queening, Gascoyne's Scarlet, Peasgood's Nonesuch, Tyler's Kernel, Cox's Pomona, Bismarck, and King of Pippins. The Pears were Grosse Calabaire, Beurré Clairgeau, Emile d'Heyat, Beurré d'Amanlis, and Doyenné Boussoch. This exhibit secured a silver-gilt Banksian medal.

There is only one class for orchard house fruit and trees, and this has to occupy a space 32 feet long. It generally proves one of the finest exhibits in the show. Again Messrs. T. Rivers & Son demonstrated their ability to grow first-rate crops of fruit in pots. On this occasion the trees were Apples, Pears, Plums, Peaches, and Crabs, every tree carrying a load of fruit. The principal Apples were Bijou, Newton Wonder, Emperor Alexander, and Cox's Pomona; while Pears included grand examples of Durondeau, Doyenné du Comice, Pitmaston Duchess, Conference, Louise Bonne de Jersey, and St. Luke. The best of the excellent Plums were Primate, President, Late Orange, and Monarch. In baskets at the base of the trees were Lady Palmerston, Gladstone, Thos. Rivers, Sea Eagle, and Princess of Wales Peaches, with some grand baskets of The Queen. Peasgood's Nonesuch (superb), Emperor Alexander, Worcester Pearmain, and Cox's Orange Pippin Apples; good boxes of Plums and Cherries completed the exhibit, to which the Hog's Memorial medal was awarded (fig. 58). Messrs. G. Bunyard & Co. also staged a fine collection of fruit trees in pots, which included Pears, Apples, and Plums. They were well loaded with fruit. The chief Pears were Vicar of Winkfield, Doyenné du Comice, Durondeau, and Marie Louise d'Uccle. The Plums were White Mignonne, Reine Claude de Bavay, Pond's Seedling, and Wyedale. These were surrounded by a large collection of Apples, Pears, Peaches, Grapes, Tomatoes, and Cherries (silver-gilt Knightian medal).

MARKET GROWERS CLASSES.

The market growers had eight classes to themselves, with market men to judge their produce, grading, and methods of picking. From an educational point of view there is nothing new from year to year, as the styles of packing do not change very much.

Now we come to an interesting class, as far as the package is concerned. The schedule reads, "Grapes, any variety, in any other package than a baby basket," with a footnote to the effect that no prize will be awarded unless the Judges considered the receptacle superior to the orthodox baby basket. Here there were only three entries, and the first prize was allotted to Mr. W. Green for a grand handle basket of Gros Colman Grapes, in all probability the best coloured samples of this variety in the Show. Mr. W. Iggludea was second with good Gros Maroc, packed in the same style.

In the class for white Grapes, packed in a similar manner, there were three entries. The first prize was taken by Mr. W. Iggluden, of the Fruit and Flower Co., Frome, with a good basket of well-coloured

bunches. Mr. W. Green, Harold Court, Harold Wood, Essex, was second with a beautiful basket, much better displayed than the previous exhibit, though the quality was hardly so good.

The class for four baskets of cooking Apples in four varieties, weighing about 42 lbs. or market bushels, proved a success, for there were four good entries. The first prize fell to Messrs. W. Poupart & Sons, Marsh Farm, Twickenham. This was well ahead with splendid samples of Warner's King, Lane's Prince Albert, Bismarck, and Peasgood's Nonesuch, packed in the orthodox market sieves or bushels. Mr. E. Basham, Bassaleg, Newport, Mon., was second with four boxes, beautifully packed and graded. The varieties were Lord Derby, Prince Albert, Bismarck, and Ecklinville Seedling.

Next we have a class for four varieties of dessert Apples in boxes or baskets, with a weight of 20 lbs. or the market half sieve. Here again Messrs. W. Poupart & Sons were the victors with four splendid half sieves. The varieties were Rosemary Russet, King of Pippins, Ribston Pippin, and Cox's Orange Pippin; a capital market exhibit. Mr. A. Wyatt, Hatton, Middlesex, was second with an exhibit packed in the same way. The varieties employed were Cox's Orange Pippin, King of Pippins, Yellow Ingestrie, and Worcester Pearmain, all well graded.

We were surprised at the display of single bushels or boxes of cooking Apples, one variety, there being only four entries. The first prize was awarded to Mr. G. Tebbutt for a grand bushel of Lady Henniker, that must have weighed nearly 50 lbs. Mr. A. Wyatt, Hatton, Middlesex, was second with typical Golden Noble.

The dessert Apples came next in order, but in half the quantity, about 20 lbs. per package. There were seven baskets staged, and Messrs. W. Poupart & Sons deservedly secured the premier award with a basket of Cox's Orange Pippin, splendidly graded, and Mr. C. A. Marchant, Maidstone, was second with an attractive basket of Worcester Pearmain.

The next class was for any improved package to hold about 42 lbs., no prize to be awarded unless the Judges deemed the package superior to those in ordinary use. It was not surprising to find only two entries, and the first and only prize was awarded to Mr. E. Basham for a light wicker basket of Bismarck. Again we have a class to test any improved system of packing, the receptacle to hold 42 lbs. Here again the last exhibitor proved successful, with a basket of Prince Albert packed in wood wool.

The first class devoted to Pears was for two packages to hold 20 lbs. each, distinct varieties. In this class there were three exhibits, Messrs. W. Poupart & Sons adding to their laurels with good half sieves of Pitmaston Duchess and Calabasse Bosc. Mr. A. Wyatt was second with Pitmaston Duchess and Durondeau, both well packed. The following class for twenty-four to forty-eight Pears, choice dessert variety, suitably packed for market. In this class there were three competitors, Mr. A. Wyatt being easily ahead with a grand box of Pitmaston Duchess, followed by Mr. C. F. Marchant, with a neat box of Triomphe de Vienne.

A fruit competition, to consist of twelve varieties of Apples and six of Pears, distinct, eighteen fruits of each, to be laid flat on the table without dishes or baskets, does not sound particularly inviting. Neither was it to be admired from an artistic point of view, but it shows up every defect in the individual fruits. Messrs. W. Poupart & Sons were once more in the front rank with a fine exhibit. The Apples staged were Ribston Pippin, King of Pippins, The Queen, Prince Albert, Alfriston, Mère de Ménage, Peasgood's Nonesuch, Warner's King, Bismarck, Cox's Orange Pippin, Wellington, and Wealthy; and the Pears were Beurré Sterckmans, Calabasse Bosc, Pitmaston Duchess, Fondante d'Automne, Louise Bonne de Jersey, and Beurré de Capiaumont, a really fine exhibit. Mr. A. Wyatt was a good second, but his Apples lacked the size of the previous exhibit. The best were Worcester Pearmain, King of Pippins, Manks Codlin, and Golden Noble; while the best Pears were Souvenir du Congrès, Pitmaston Duchess, and Durondeau. There were four entries in this class.

The first Plum competition was that for a box or basket of about 28 lbs. capacity, one variety, and it is to be regretted there were only two baskets staged, Messrs. W. Poupart & Sons securing the first prize with a grand exhibit of Monarch. Mr. G. Tebbutt was second with Belle de Septembre.

For a box of Peaches, twenty-four in number, packed in a suitable box, Mr. John Gore, Polegate, was awarded first with a capital box of Sea Eagle, packed in the orthodox market box, and Messrs. W. Poupart and Sons were second with the same variety.

It was surprising to find only three exhibitors for a basket or box of Tomatoes. The first prize was secured by Mr. J. Gore, with a handle basket of Polegate, who was followed by Messrs. W. Poupart & Sons with a good half sieve.

NON-COMPETITIVE EXHIBITS.

Messrs. H. Cannell & Sons, Swanley, exhibited a large, semicircular group of Cannas in great variety bordered with a double row of Cactus Dahlias in sprays arranged in a bed of Maidenhair Fern. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, contributed a fine exhibit of Crotons, a large table of tuberous Begonias, and a group of early flowering Chrysanthemums. The Crotons were beautifully displayed in a bed of Ferns and other foliage plants, the whole exhibit being backed with Bamboos, Palms, and Dracenas. From Messrs. T. S. Ware, Ltd., Tottenham, came a large collection of Cactus and Pompon Dahlias, also a large table of tuberous Begonias, both single and double, which were bright and fresh-looking. Messrs. J. Peed & Sons, Norwood, were represented by a collection of hardy flowers in which Asters and Dahlias were most conspicuous.

A pretty table of stove and greenhouse plants of a decorative type was arranged by Messrs. B. S. Williams & Son, Upper Holloway. It

included some beautiful Crotons, Dracenas, Aralias, and a few Orchids. Messrs. J. Cheal & Sons, Crawley, had a large and well arranged collection of Dahlias, which comprised representatives of all sections, in which the Cactus and singles were remarkably good. Pears, fruit trees in pots, and baskets of autumnal foliage were also sent by this firm. A grand display of Roses for the time of year were staged by Messrs. W. Paul and Son, Waltham Cross, also a collection of Apples in pots. Messrs. Wm. Cutbush & Son, Highgate, had a capital exhibit of Oranges in pots, with a few Vallotas and foliage plants, as well as a large display of Apples, Pears, and Tomatoes. The same firm also sent a collection of Ivies. Mr. Maurice Prichard, Christchurch, Hants, staged a beautiful table of hardy flowers, which were much admired.

Messrs. T. Rivers & Son, Sawbridgeworth, had a table of fruits which included three pot Vines, Golden Queen, carrying heavy crops, also grand bunches of Black Alicante and Gros Maroc. The chief feature, however, was a box of magnificent Peasgood's Nonesuch Apples, which were of enormous size and beautifully coloured. Messrs. A. W. Young & Co., Stevenage, had a table of hardy cut flowers and Tomatoes. The collection of Asters was also good. Messrs. J. Laing & Sons contributed a large display of fruit trees in pots, including some well cropped Vines; also a large collection of Apples, Pears, and Plums. The same firm also sent double Begonias, hardy flowers, with a group of decorative Conifers, Ivies, Privets, and Sweet Bays. A very interesting exhibit of boxes suitable for storing and packing Apples and other fruits was made by Messrs. C. H. Glover & Co., Old Kent Road.

Mr. John Russell, Richmond, arranged a group of Ivies, for which he is so justly famous, which included not only the arborea type but most of the climbing forms. Messrs. R. Smith & Co., Worcester, contributed a collection of Apples and Pears somewhat sparsely displayed, but good dishes of Lady Henniker, Lord Derby, Warner's King, Striped Beefing, Stone's, and Cox's Pomona were to be seen. There were also noteworthy dishes of Pitmaston Duchess, General Tottleben, Souvenir du Congrès, Durondeau, Catillac, and Marschal de Cour Pears. A pretty exhibit of Pernettyas was staged by Mr. L. T. Davis, Hillsborough, co. Down. The bunches were beautifully berried, and included coccinea purpurea, macrocarpa alba, sanguinea, lilacina, rubra, rosea macrocarpa, and alba coccinea.

Mr. Will Tayler, Hampton, staged a few good dishes of Apples, among which may be mentioned Emperor Alexander, Jubilee, Fearn's Pippin, Peasgood's Nonesuch, Worcester Pearmain, and Cox's Orange Pippin; also outdoor Grapes, named Reine Olga. Mr. J. Pinches, Crown Street, Camberwell, had a stand of his specialities, including the well known and excellent labels. Messrs. W. Gaymer & Son again exhibited Apples and a number of cyder bottles in an artistic manner. The Horticultural College, Swanley, made an exhibit of Grapes, Apples, Pears, Nuts, Melons, Damsons, and excellent bottled fruits.

PARIS INTERNATIONAL EXHIBITION, 1900.

A MEETING of the horticultural section of the British Commission was held on Thursday last at the Crystal Palace. Sir Trevor Lawrence, in opening the proceedings, briefly explained the conditions under which English exhibitors could exhibit, both at the permanent and periodical shows, which will extend from April till November. He thought that there were certain departments in which English nurserymen and cultivators generally were far ahead of their colleagues on the Continent, and although there were no pecuniary awards, still the honour of this country should be maintained.

Mr. John Wright called attention to the fact that the schedule had not been previously circulated, and the majority of those present at the meeting had not been afforded an opportunity for considering the project. He thought that many of our best gardeners could not exhibit for the mere gratification, and as there were no prizes, he did not see why they should incur any loss. The great commercial houses, on the other hand, could exhibit, but their products would not be so fully representative of English horticulture in the fruit and vegetable sections as those of the private growers. He hoped, however, that means might be devised whereby the best produce of British gardens would be fully represented.

Sir Wm. Thiselton Dyer explained that the need for discussing the subject had not arisen before. He was very proud of English horticulture, and anxious that we should make a good display. He also alluded to the imports and exports of trees, shrubs, plants, and roots between the two countries, and thought there was room for the English to do more business with their neighbours.

Mr. Harry Veitch, as Secretary of the horticultural section, explained that few exhibitors would be likely to show for the whole period, but that if several exhibitors arranged to send their produce, the British Commission might perhaps arrange to send someone over with the exhibits. The recent exhibits of vegetables at the fortnightly meetings had never been equalled, and it might help if intending exhibitors were to send a preliminary list to the Commission.

M. Maxime Cornu of Paris referred to the R.H.S. Fruit Show in eulogistic terms, expressing his admiration at the fine quality, colour, and freshness of the Apples in particular, which he considered were remarkable for their culture. As for the Grapes, he could only say that France was a country in which Grape growing was largely practised, but he had never seen anything like them in Paris, two of the bunches reminding him of those we read about in Scripture, which required two men to carry them. They would be very happy and much honoured to see the English growers of such produce represented at their great exhibition.

next year, and in this feeling he was sure the French nurserymen were unanimous.

Mr. Munro spoke from the market growers' point of view, alluding to the high prohibitive tariff that France imposed on fruit that was exported from England, and he had only had one reply to many inquiries he had made relative to supporting the exhibition, and that was a direct refusal. Market growers were business men, and proud as he was of their produce, he feared that they would not readily respond. Mr. Hudson thought it contributions were invited from private gardeners their employers should be written to, an opinion that was shared by Mr. McIndoe, who also thought that growers would prefer to set up their own exhibits on the spot.

The Chairman having replied to several points, explained that there would be no duty on the exhibits, that wherever one exhibited there would sure to be some damage and expense. He thought it was a case more of public spirit for the honour of the country, especially as it would be exhibiting our produce not to the French only but to the whole world.

COLOUR IN FRUIT.

AIR in plenty plays a much more important part in giving colour to fruit than is usually supposed, and just as wind is needed to ripen Wheat and other white straw crops, so it has its effect upon the foliage and fruit in the garden. I am gathering Princess of Wales Peach now from a late house which has been kept wide open for the sake of trees of earlier varieties, and I have never seen this somewhat pale Peach so well coloured before. All fruits exposed to wind are better coloured than others in more sheltered positions, and the same thing may be noted with foliage.

We have Ampelopsis Veitchi on the mansion, and one very draughty corner of the wall has a very fine plant on it. This always has brighter coloured foliage upon it, and takes on the colour earlier in the season than other plants, though all are precisely the same variety. Instances without number might be given where fruit attains the highest stage of development as to colour in the most exposed places. Colour is not always evidence of good quality, of course, but as a rule when well grown fruits of pale and good colour are placed side by side, the latter will be found the better, while those engaged in fruit dealing know well enough which sells the more readily.—SUFFOLK.

MUSHROOMS.

EVIDENTLY owing to the welcome showers of rain in the early portion of September, fine supplies of Mushrooms have been sold in the Birmingham market, including a quantity of that delicious, though large and coarse looking, esculent "St. George's Mushroom" (*Agaricus gambosus*), which is principally used for the making of ketchup. It differs somewhat in form and texture from the common "Herb" Mushroom (*Agaricus pratensis*), and is said to be the principal variety produced in the south of England for edible purposes, instead of the common variety, *Agaricus campestris*; but of this I may not have been altogether correctly informed.

There is another species of edible fungi, which is not so recognised as its merits deserve—viz., the Giant Puffball (*Lycoperdon Bovista*), but which is generally regarded by the uninitiated as not eatable or poisonous, whereas when young connoisseurs esteem it among the *elite* of the edible species. The mode of cooking it is simple—by merely cutting one into slices about an inch thick, and frying in a pan with a little butter or dripping fat. Its flavour resembles that of Sweetbread, and in fact it is known as the Sweetbread fungus. When fully ripe its dry mass of threads and spores is used as a styptic, and its fumes answer the purpose of chloroform.—W. G.

THE YOUNG GARDENERS' DOMAIN.

SEAKALE.

THE middle of October is a suitable time to commence lifting a few plants for forcing in the Mushroom house. Seakale can be easily raised from seeds, but the quickest way is to procure some "sets," or root cuttings from a reliable source. These "sets" should be about 4 or 5 inches in length, and as thick as a man's small finger. The middle of March is a suitable time to plant these root cuttings in ground which has been thoroughly prepared by deeply trenching and manuring in a fully exposed quarter of the garden. They should be not less than 15 inches asunder each way, with the crown just under the surface soil. When all the crowns are lifted in October or November for forcing in the Mushroom house is the time to take the cuttings, which should be cut off 1 inch from the crown and laid in a heap of leaf soil, so that in inclement weather these roots may be converted into sets. The thickest part of these roots will form the crowns, and will require cutting straight across the top, the lower or thinner end being given a sloping cut.

The crowns, after being lifted, should also be laid in leaf soil, so that they may be easily got at if severe frosts set in, it being almost impossible to lift them from their growing quarters in frosty weather. Of course a good portion of the crowns should be left for forcing in the open ground for the latest supply of all. If no frost has occurred in October the probability is that the leaves will still be fresh and green; if so, partially lift those crowns that will be required by putting a long-tined fork down deeply by the side of the crowns and heaving them up. This should be done a week before the time they are wanted, and the

leaves will soon afterwards readily part from the crowns. In all probability this partial lifting will not be necessary for the next batch.

The forcing may commence by placing the roots in the Mushroom house rather thickly together and working some light soil in amongst and just over them; water with a roset can when completed, and afterwards as required. All light must be excluded, and a temperature ranging from 53° to 58° will be all that is necessary to produce fine blanched heads. Seakale, like Rhubarb, always forces much better after a few frosts, and no harm is done to the roots if exposed to the elements after being dug. When the supply is once started it should go on regularly, and if Seakale roots are placed in the Mushroom house every week on a certain day without fail it will be easy to avoid a break.

For the production of the latest supply of all the crowns should be left where they are grown, and not lifted until growth is commencing, which will be near the middle of March. They should then be lifted and planted in rows on a north border, and covered with leaf soil 1 foot in depth. If a very large heap of leaf soil is in stock the Seakale may be blanched there, covering the crowns to the same depth. Some growers for a late supply simply put ridges of soil over the crowns where they grow without lifting them, and some cover them with burnt garden refuse.

Many gardeners are obliged to get their early supply by covering the crowns with large deep pots, round which fermenting material is put, so as to generate the necessary heat for the Seakale to grow. Pots with movable tops are the most suitable, as the Seakale can be readily examined as growth proceeds. This method is a very old one, and not to be recommended, as a great amount of labour is attached to it.—FOREMAN X.



FRUIT FORCING.

Cherry House.—If it is intended to plant any trees, it should be seen to as soon as the leaves have fallen. Early Rivers, Governor Wood, Black Tartarian, and Elton are excellent varieties, both for size and quality. The lights having been removed, they need not be replaced for six or eight weeks, the old surface soil being removed without injury to the roots, and fresh compost supplied, good calcareous loam, with the addition of a fourth of well decayed manure, answering. A handful per square yard of some approved fertiliser sprinkled on the top-dressing, and lightly scratched in, will prove of advantage at starting time, and afterwards in the early swelling of the fruit.

Trees in pots, required to be shifted into larger sizes, should be attended to at once, and those not needing such treatment may be turned out of the pots, removing a few inches from the base, cutting back the roots, supplying fresh loam, adding old mortar rubbish if not calcareous, with a fourth of decayed manure, and providing good drainage. Remove the surface soil in other cases as well as the last named, and supply fresh loam duly enriched, making quite firm. Afford a good watering, and place the trees where they can have abundance of air.

Melons.—Cankered and cracked fruits are most frequent during damp weather, especially dewy nights after bright days. The best practice is to keep both the soil and atmosphere dry, and for canker, freshly slaked lime well rubbed into the affected parts. Cease syringing the foliage, and supply water at the roots to prevent flagging, and no more. Remove all superfluous growths. The late fruits are swelling, and must be supported. Maintain a night temperature of 65°, and 70° to 75° by day, closing the house early in the afternoon, keeping through the day at 80° to 90° from sun heat.

Plants in manure heated pits and frames will not require any water after this time, a dry condition at the roots being necessary to accelerate the ripening process. Any fruits that have finished swelling, or on plants that are dying, should be cut with a good portion of stem and placed in a dry warm house to ripen. If left in the frame they will probably decay, or acquire an unpleasant flavour.

Vines.—*Early Forced Vines in Pots.*—The canes to furnish ripe Grapes in March or April should be started not later than the first or second week in November. Early and free-fruited varieties must be chosen. All points considered, White Frontignan, Foster's Seedling, Black Hamburgh, and Madresfield Court are the most satisfactory. If bottom heat can be given to start them they will break well and make good progress. Provided there is a pit of 3 feet depth and 4 feet width, the pots may be raised upon loose brickwork in pillar fashion, so that their rims are slightly higher than the pit edge, and so that the pots will be in the centre of the bed. Leaves being placed in to fill the pit, a gentle warmth will be afforded the Vines, and the roots will pass from the pots into the leaves, deriving support beneficial to the growth of the Vines and Grapes. The temperature at the roots must be moderate at all times, especially at the commencement, 60° to 65° being sufficient about the pots, and 70° to 75° at their base. When in growth the temperature about the pots ought to be between 70° and 75°. The house must be light, properly ventilated, and well heated. It should face the south, a lean-to or three-quarters span-roof being most suitable.

Early Forced Houses.—Early in November is sufficiently soon to start permanently planted Vines to afford a supply of ripe Grapes in late March or early in April. Where there is convenience for growing the Vines in pots that is the better practice, as very early forcing is a great strain on their energies, growth having to be made at the dullest period of the year, and to rest at the hottest. The Vines ought now to be pruned, and rest assured by keeping them cool and dry. If the roots are partly outside, that portion of the border should have a covering of moderately dry leaves with a little litter to prevent them blowing about. This is an effective protection, and need not be used until the soil has been well moistened by the autumn rains, yet before the ground has become soddened and much reduced in temperature. Vines entirely in outside borders are not desirable for early forcing, though it is sometimes necessary to make the most of them for the purpose, and in that case a supply of fermenting materials must be held in readiness for placing in the border and to renew the heat as required. Fermenting material is also a great aid in forcing operations where the roots are partly or entirely inside, as they generate and maintain a genial condition of the atmosphere, without recourse to so much fire heat or sprinkling from the syringe. In that case the material should be placed in the house when it is closed, turning the heap a time or two so as to become somewhat sweetened before use.

Second Early Houses.—Vines to be started at the new year to afford ripe Grapes in late May or early in June, ought now to be pruned and dressed, removing the loose bark only, and washing them with a tepid solution of caustic soda and pearlash, 1 oz. each to 1½ gallon of water. The house also must be thoroughly cleaned, whitewashing the walls, and painting the wood and ironwork if necessary. Loose surface soil should be removed and a couple of inches thickness of fresh loam be supplied, sprinkling about 4 ozs. of the following mixture over each square yard: Steamed bonemeal, two parts, and one part double sulphate of potash and magnesia; mix, scratching in lightly. The house should be kept cool and dry, ventilating fully except when frost prevails, and only use fire heat to exclude it or prevent the hot-water pipes becoming frozen.

THE KITCHEN GARDEN.

Asparagus.—Since the rains have fallen Asparagus plants are behaving somewhat peculiarly in many gardens. They are pushing up strong young shoots which ought to have come either earlier in the season or remained dormant till next spring. Nothing but an early frost will check this undesirable activity. Cutting down the tops before quite yellow is a mistake at any time, and this autumn would only aggravate the evil alluded to. The late shoots are bound to suffer from frosts, and any that escape may well be cut off with the matured growth. Where weeds are springing up thickly take advantage of dry sunny days to hoe among the plants.

Beet.—The Beet crops, notably of varieties possessing a good constitution, are very satisfactory in most gardens. The roots are susceptible of injury from frosts. At present they are well protected by their own leaves, but after the first touch of frost no further risks should be run. If the ground is hard a fork should be used for lifting the roots, with a view to breaking as few fangs as possible. The coarsest roots, or those approaching the character of a Mangold, as well as the very small roots, ought to be discarded. The rest, after having their tops either twisted off or lightly trimmed, not cutting the crowns of the roots, and cleared of the rough soil clinging to them, should be stored where they will be protected from frosts, rats, dry air and excessive damp. They may be packed in sand, fine ashes, or soil, crowns outwards and just showing.

Carrots.—Much that has been advised concerning Beet also applies to Carrots. Only those roots nearly or quite fully grown ought to be lifted, undersized or growing roots keeping best, and proving the tenderest and sweetest when drawn from the open ground as required. An ordinary frost does not injure small Carrots, but when a severe frost is anticipated it is well to cover a portion of the bed with short straw litter, and it will then be possible to lift roots in all but the severest weather.

Other Beet Crops.—Chicory roots may be left where grown, digging the requisite number as they are wanted for forcing, or they may be lifted and stored in soil against a cool wall. Jerusalem Artichokes also keep well where grown, or they may be lifted and stored in sand or soil, further protecting from severe frost. Parsnips keep best undug, stored roots being apt to become shrivelled and tough. Heavily covering a portion of the bed with straw litter renders it possible to lift roots in frosty weather. Salsify and Scorzoneria may be treated similarly to Parsnips with advantage, or be stored as advised in the case of Chicory.

Paraley.—At the present time Paraley is looking remarkably well, and if we experience only moderately severe frosts during the winter doubtless it will be plentiful enough. So constant is the demand, however, that an effort ought always to be made to keep up a supply of Paraley in the event of the open air plants being crippled or killed by frost. Only a limited number of gardeners can devote a pit or frame to its culture, but in most cases there is nothing to prevent a few dozen plants being wintered under glass. Strong young plants lift readily, the stout tap root supporting them till they have made abundance of fresh root fibres. No attempt should be made to save the lower old leaves, and if these are picked off the plants can be packed somewhat closely together in deep pots, boxes, or beds of rich soil.

Protecting Vegetables and Salading.—It is scarcely possible to protect tall rows of Peas or Runner Beans, but it sometimes pays well to afford some sort of protection to medium or dwarf rows, and also breadths of dwarf Peas and Kidney Beans. Branches of forest trees before the leaves fall, Pea stakes with old haulm on them, and branches of evergreens

fixed temporarily over the rows, will frequently save them from partial destruction by frost and prolong the supply of choice vegetables till some time in November. The dwarf rows can be surrounded by boards and covered with long stakes, blinds, mats, or glazed lights. The change from dry to showery weather has caused Globe Artichokes to grow strongly, and if the weather remains mild some good late heads will yet be produced. These would be greatly appreciated in many establishments during October or later, and they could be saved from frost by enclosing the productive plants by tall stout stakes and Russian mats. Productive Vegetable Marrows should be protected with mats. A portion of the more forward Cos Lettuce ought to be lightly tied, then carefully lifted with a ball of soil about the roots, and replanted somewhat closely in frames where they can be protected, if need be, with glazed lights, mats, or both. Endive should be similarly treated. Some of this might be stored in pits or on the borders of Peach houses. Blanching would be facilitated by tying and covering with 8 inch pots with their drainage holes stopped.



MARKETING HONEY.

It is discouraging to bee-keepers who, having obtained a surplus from their bees, are unable to find a market for their produce. Owing to the honey harvest being so unfavourable and the honeydew so prevalent last year, a great amount of foreign produce was placed on the market. Much of this we find is still in the hands of the retail shop-keepers. It is of inferior quality, and does not command a ready sale, as in many instances the same price is charged as would be asked for the best samples of English honey.

Bee-keepers, however, have the matter very much in their own hands. If they will supply a good article, put up in handy form and offered at a fair price, there is always a good market for English honey. It is the small bee-keeper who has the greatest difficulty in disposing of his produce. In an apiary where the hives containing bees may be counted by the dozen, the bee-keeper will often dispose of a large harvest much more readily than one having only half a dozen stocks.

The days of big prices are gone, but by close attention to the details, such as grading, and only marketing the best samples, placing the produce in neat screw top glass jars, which should be carefully labelled with the producer's own label, which will be a mark of genuineness, and may be a great help to future sales, is more than repaid. If sections are used for comb honey let them be well sealed over before removing them from the hive. If the wood is discoloured with propolis, it should be carefully scraped with a blunt knife, and those that are badly marked will be improved if rubbed over with coarse sandpaper.

The tops of the sections should always have a mark placed on them, so that they may be stood in the same position they occupied in the hive. These are a few of the chief points that make all the difference between success and failure in marketing honey. If more attention were paid to neatness and the general get up of our produce, bee-keepers would have little reason to complain of their inability to find a market for their honey.

GRADING HONEY.

As mentioned above, it is most important that honey should be graded. It is a well known fact that honey obtained from different flowers varies in a marked degree. In some districts a surplus is obtained from the fruit trees; this has a greenish tinge, is thin, and does not granulate readily. If a large bulk of this were mixed with say an equal quantity of white Clover honey, the whole would then be a very inferior sample. But by keeping each separate, they would stand on their own merits.

A surplus may always be depended on from field Beans if they are grown in quantity, and that all-important factor in honey production, the weather, is favourable. The honey obtained from this source is of good flavour, brown in colour, but somewhat coarse in the grain. Although it does not look so well when bottled as some of the lighter honeys, still it is preferred by many people.

Mustard is extensively grown in some districts, notably in Lincolnshire. This plant yields a great amount of honey, which is very white, but of poor flavour. Next comes the best of all honey producing flowers, White Clover, which is extensively grown throughout the country in the sheep pastures, and if the weather is favourable it is surprising the large amount of honey that will be stored in a few hours. It is of exquisite flavour, very light in colour, and fine in grain. It is the beau ideal of a good honey. The White Clover is closely followed by the Lime. It is somewhat difficult to keep the two separate. The latter is bright yellow in colour, and when mixed with the former it has a pleasing effect.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **3, Rose Hill Road, Wandsworth, S.W.**, and **NOT** to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Arum italicum Fruiting (J. M. K.).—The "truss" of fruit was all shaken off the stem when received, owing to delay in the transit through misdirection. It is a native of the Channel Islands and Cornwall, and not infrequently seen in fruit in the southern parts of England, and even in the north of England the fruits ripen in warm seasons, such as the present. It is worth record, however, that it has fruited out of doors this year two miles from the Manchester Exchange in a suburb known as Old Trafford.

Foster's Seedling Grapes Spotted (A. W. T.).—The berries are badly spotted or affected by the spot fungus, *Glæosporium laticolor*, which attacks the thin-skinned Grapes, such as Muscat of Alexandria, Duke of Buccleuch, Foster's Seedling, and other white varieties, more than the thin-skinned black ones, and seldom infests the thick-skinned. The cause, or rather the facilities for the germination of the fungus spores, is a too close and moist atmosphere, moisture being deposited on the skin of the berries, usually the upper side or that outside the bunch, which destroys the tender or thin skin, and the fungus readily gains access to the flesh. There is no remedy but the removal of the decayed or affected berries, and the only preventive is a gentle warmth in the hot-water pipes, with a little air constantly, so as to prevent the deposition of the moisture on the berries. It is a great mistake to grow thick-skinned and thin-skinned varieties in the same house. Why not graft the two rods of Foster's Seedling with the other varieties? It is a capital stock.

Recipes for Making Tomato Sauce (Ignoramus).—As Mr. H. J. Jones, of Lewisham, makes most excellent Tomato sauce, we asked him for the receipt. This he has kindly furnished, and the delay in replying is due to the fact that Mr. Jones was in Scotland when we wrote:—12 lbs. of ripe Tomatoes, 1 lb. of English Onions chopped very small, $\frac{1}{2}$ lb. of salt, and $\frac{1}{2}$ lb. of mixed spices tied in a muslin bag; the whole to be boiled on a gentle fire until the Onions are tender, then strain through a fine sieve, add 1 pint of best vinegar, and a very small quantity of cayenne pepper; boil again until it thickens. It should be bottled immediately it is cool. It is better to skin the Tomatoes, and cut them into slices before boiling. Green Tomatoes can also be made into sauce, using the above quantities with the addition of $\frac{1}{2}$ lb. of Shallots chopped fine, 4 ozs. of castor sugar, and an extra half pint of vinegar. Green Tomato sauce does not keep so long as that made from ripe fruit.

Keeping Walnuts (J. C. A.).—The Nuts should be packed in alternate layers with sand in jars or clean flower pots, scattering a little salt over them as they are put in, which saves them from mould and keeps the kernels plump. The jars or flower pots thus filled should be stored in a cool place, preferably in the ground, such as the angle of a south and east wall of a kitchen garden on the north side. The vault should be formed of loose bricks 3 inches deeper than the jars or pots, and so wide as to hold them conveniently. The pots must be covered with slates overlapping each other, and with the ends resting on the side walls; then over the slates 1½-inch oak boards about the same size as the slates, so that they can easily be removed, after which cover the whole with a couple of inches of soil. The border must be well drained, otherwise the vault would be a receptacle for water. The Nuts can be taken out as they are required, say sufficient for three or four days at a time. The flavour is best preserved in the ground-vault, and the kernels are sufficiently plump to admit of peeling. When the kernels shrivel the Nuts should be steeped about twenty-four hours in water, or preferably milk and water, rubbing the Nuts dry for table.

Paris Green and Lime (C. B.).—It is quite true, as you observe, that Mr. Cousins says, in "The Chemistry of the Garden," in reference to Paris green, "Never use more than $\frac{1}{2}$ lb. per 100 gallons of water (1 oz. in 12 gallons), and always add twice as much lime (as Paris green) as a precaution against soluble arsenic, which is injurious to foliage." You thereupon ask, "how many gallons of a saturated solution of lime—the clear liquid which results from putting more quicklime into a barrel of water than it can take up—is equal to 1 lb. of quicklime." To this question Mr. Cousins replies as follows:—"Ninety to 100 gallons, and therefore impractical. The best procedure is to simmer the lime and Paris green in an enamelled iron saucepan for a few minutes before mixing."

Preparing Ground for Asparagus (G. I. O. B.).—The land with a little more than a foot depth of top soil would be best prepared by taking out a trench 2 feet wide and to the full depth of the good soil, wheeling or carting the earth to the other end of the plot ready for filling in the last trench. Then place in the trench 3 or 4 inches thickness of the old Mushroom bed refuse, and dig it into the trench with a fork, taking small spits so as to mix the manure with the soil, and loosen this as much as possible. Turn the next 2 feet width of top soil with some of the old Mushroom bed refuse upon the loosened earth in the trench, and in the new trench proceed as before, and so on. This, called bastard trenching, would give a greater depth of loosened and enriched soil than by ordinary digging. The gangways are best not robbed of soil, for the Asparagus roots spread considerably laterally or run into the alleys or spaces left for convenience of cultural operations. We have, however, seen and practised the method you propose, and with a generous subsoil, water percolating through and away from it freely, the results have been satisfactory, the beds being liberally manured each year. You may sow seeds and thin out instead of planting one-year-old plants if you prefer.

Newtownards Show (Amateur Exhibitor).—There seems to have been no lack of doubts and misunderstandings at the show, judging, at least, by your letter, but none of them very serious, we hope. We have asked, over and over again, that a schedule be sent to us of any show at which there have been certain matters in dispute that we are desired to consider. You have not sent one, and therefore we cannot fully consider the points at issue, but we note them shortly. To your first question, What is a "Snapdragon?" our reply is, it may, for the purpose of exhibiting, be either an annual or perennial, according to the species or variety staged, while thousands are grown as biennials. *Antirrhinum majus* is a perennial. Please give a precise reference to the page on which we have stated otherwise without some qualification. To your second question our reply is that The Queen and Golden Noble Apples are not recognised dessert varieties. They are both placed in the "cooking" lists in the schedule of the Royal Horticultural Society. Yellow Ingestrie is a dessert Apple, under whatever name it may be exhibited. The last case on which you ask for "light" refers to classes for "six baking Apples, winter," and "six baking Apples, summer." Warner's King, you say, was staged in both these classes by the same exhibitor, who was adjudged the first prize in each. In the absence of any special covering conditions in the schedule we see no reason to doubt the correctness of the verdict. Warner's King bakes and otherwise cooks well as soon as the fruits are large enough in August, which we think is "summer," and are often in excellent condition after Christmas, which most people regard as "winter." Generally speaking, we look upon it as a fine autumn Apple, though we have seen firm samples in February.

Grapes Unsatisfactory (T. C. C.).—The Grapes are in a bad state, the Black Hamburgs being shanked and the Gros Colman badly coloured and mouldy. The cause may be attributed partly to the condition of the soil, as both shanking and bad finish are usually traceable to defects at the roots, and partly also to indifferent management. Old vineries and Vines are somewhat difficult to deal with, as it is practically futile to attempt to lift the Vines and bring the roots near the surface in new compost over through drainage. It is possible, however, to assist, if not rejuvenate, the Vines by simple means, always provided the soil is not soddened and soured for lack of drainage. If the soil be suitable as regards texture, and there cannot be much amiss with it to produce the size of bunch and berry forwarded, a dressing of best chalk lime air-slaked, not less than 1½ cwt. per rod, spread on the border, will usually work wonders, partly by correcting the soil's tendency to become sour by heavy dressings of manure, and rendering other elements in the soil available as food. In addition to this we advise a top-dressing some time after the lime has been applied, but before the Vines start into growth, say the lime now, and the top-dressing at the time of pruning and cleaning the house, of a mixture of bone superphosphate, dry and crumbling, two parts, and double sulphate of potash and magnesia one part, mixed thoroughly, and using half a pound of the mixture per square yard, pointing in 2 or 3 inches deep, and not more than 6 inches, always without injury to the roots. This we have found effectual in a case of Vines as old as yours, both as regards shanking and deficiency in colouring. Another point is to be careful in watering, never giving so much as to make the soil very wet. With the soil in a properly moist condition no water will be required after the Grapes commence ripening. The chief cause of shanking and defective colouring is excess of nitrogenous or organic matter in the soil, often due solely to the injudicious use of stable or farmyard manure and too much water, especially in the ripening stages. Of course, the soil must be kept moist, but erring, if at all, on the rather dry than the over wet side in such cases. Good management is a vital point, the Vines being given plenty of air, not too much atmospheric moisture, and the growths properly stopped, each having space for the development of the leaves in full exposure to light and air. The mouldiness may arise from water dripping on the Grapes in conse-

quence of a leaky roof. See to this, and have it made watertight. Mouldiness, however, may arise from keeping too close and moist an atmosphere, or from neglect in the timely removal of decayed berries.

The Oldest Rose (B).—References to the old Rose at Hildesheim appeared in the *Journal of Horticulture* for May 25th and June 22nd, 1893, and the information therein would probably be of service to you. If you have not the numbers write to our publisher, 12, Mitre Court Chambers, Fleet Street, London, sending 7d. in stamps, when, if in stock, they will be forwarded.

Fig Trees in London (G. H.).—The Fig is one of the finest foliage trees for smoky towns in the southern parts of England not highly elevated. It succeeds, however, in some parts of Hertfordshire at 300 feet above sea level in gravelly loam on chalk, and instances are known of standard trees not failing to ripen fruit in sheltered situations during thirty consecutive years. Cases occur where all the trees do not do this even in the same locality, and the difference is generally traceable to soil variations and constituents. In one case that has come under our observation the trees produced magnificent foliage, with an abundance of second crop Figs that never ripened, all the should-have-been first crop falling off on the coming of the trees into leaf. The soil was a deep loam over chalk with flints, this substratum being 20 feet from the surface. In another case, not a quarter of a mile distant, standard trees rarely failed to give ripe fruit in September, the soil there being a gravelly loam on a rather unctuous, reddish, substratum, resting on chalk with flints 5 to 10 feet from the surface. The trees in the deep loam were root-pruned, a trench being taken out 2 feet wide just within the outside spread of the branches, all the roots cut off and the trench filled in after mixing with the soil one-third of old mortar rubbish, then the soil was removed from over and amongst the roots towards the stems of the trees without injuring them more than could be helped, and the soil replaced after adding to it one-third of old mortar rubbish and made very firm, the spare soil (one third) being spread over the adjoining ground, not placed over the roots. The trees grew much sturdier, though less in length of shoot, and bore, and still do, ripe fruit. We advise similar treatment with your tree, we having practised on trees against walls with success in various parts of the country. It is also a good plan to thin the head, but not excessively, so as to allow light and air to have free access to the growths, the most stubby or short-jointed being retained. Towards the end of summer remove all the Figs larger than a Pea, thus causing the tree to concentrate its forces on the buds at the points of the shoots, causing them to develop into the first and only out-door crop of Figs to ripen in this country in August or September. The ripening of current year's wood is of the greatest importance, as on such wood the fruit is borne in the following season, those produced on it in the year of formation seldom or never ripening, and are better removed up to the middle of September. This gives the Fig buds then in formation on well-ripened wood a chance to swell freely with the return of growth in the following year. A mulch of short manure over the roots to a little more than the spread of the branches is a great help to Fig trees, but it must not be more than an inch or two thick. The manure yields nitrogen or ammonia steadily, and this with the lime and the agency of nitrifying organisms, produces the nitrate of lime so essential for the Fig, though that of potash and soda are not less important, also soluble silica. A suitable mixture for the Fig, to apply in autumn, is equal parts of bone superphosphate and best quality kainit, mixed, applying 3 to 4 ozs. per square yard. For use in spring, potassium nitrate 2 parts, potassium phosphate 2½ parts, and ammonium sulphate 1 part, all finely powdered and thoroughly mixed, applying 2 ozs. per square yard. The points to be chiefly remembered are—1, firm or hard calcareous soil; 2, thinly disposed short firm growths; 3, removing all incipient fruits that are as large as small Peas in the autumn; 4, not shortening the shoots in pruning; 5, inducing surface roots by the method above advised, and keeping them near the surface by mulching in summer.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. (M. H. S.).—White Must. (*Cedo Nulli*).—1, Wyken Pippin; 2, Annie Elizabeth; 3, Dr. Harvey; the Pear was partially rotten, and could not be named. (M. G. R.).—1, Dumelow's Seedling; 2, Potts' Seedling; 3, Lane's Prince Albert; 4, Lady Henniker; 5, Yorkshire Beauty; 6, Gascoyne's Scarlet Seedling. (R. W. L.).—1, Loddington Seedling; 2, Lady Henniker; 3, Bramley's Seedling; 4, Adam's Pearmain; 5, Catillac; 6, Vicar of Winkfield. (M. C. M.).—1, Court Perdu Plat; 2, Baumann's Red Winter Reinette; 3, American Mother; 4, Queen Caroline; 5, Marks Codlin; 6, Striped Beefing. (S. R.).—1, D'Arcy Spice or Bad-

dow Pippin; 2, Lord Derby; 3, Emperor Alexander; 4, Warner's King; 5, Waltham Abbey Seedling; 6, Cellini. (F. R. H. S.).—1, Seaton House; 2, King of the Pippins; 3, Ribston Pippin; 4, Alfriston; 5, Worcester Pearmain; 6, Cox's Pomona. (G. A.).—1, Catshead, true; 2, a seedling form of Catshead. (J. B.).—Your tree has evidently at least three grafts of distinct Pears on it, as the six specimens you send are of three varieties—namely, small brown fruits, Marie Louise d'Uccle; long irregular fruits, Souvenir du Congrès; larger greenish-brown fruits, Williams' Bon Chrétien (*Gatesacre*).—1, Beauty of Kent; 2, Minchull Crab. (W. B.).—1, Warner's King; 2, English Codlin (fine); 3, Lord Derby; 4, Catshead; the specimens, though, scarcely typical of the varieties, are very creditable; we regret we cannot recognise the two smaller fruits.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (A. L. H.).—1, *Cypripedium Lawrenceanum*; 2, *Blechnum boreale*; 3, *Asplenium lonchitis*; 4, *Selaginella Wildenovi*. (E. W.).—1, *Cymbidium Lowianum*; 2, *Laelia autumnalis*. (J. E. B.).—1, *Calluna vulgaris*; 2, *Pyrus terminalis*; 3, *Cupressus Lawsoniana*; 4, *Taxodium distichum*; 5, *Taxus baccata*; 6, *Thuopsis dolabrata*.

COVENT GARDEN MARKET.—OCTOBER 4TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2 0	3 0	Nectarines, per doz.	8 0	6 0
Cobnuts per 100 lb.	70 0	0 0	Peaches, per doz.	8 0	6 0
Damsons	4 0	6 0	Pears, Californian, case...	8 0	6 0
Figs, green, per doz.	1 0	8 0	Pines, St. Michael's, each	1 0	6 0
Grapes, black	0 6	8 0	Plums, English, per sieve	3 0	5 0
Lemons, case	14 0	20 0	„ Californian, case...	4 0	8 0
Melons	0 6	1 6	Walnuts, fresh, bushel	20 0	0 0
„ Rook	1 9	2 6			

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1 0	2 0	Lettuce, doz.	1 8	2 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb.	0 6	1 0
Beans, ½ sieve	2 6	8 6	Mustard and Cress, punnet	0 2	0 0
„ Scarlet, sieve	2 6	4 0	Onions, bag, about 1 cwt.	4 0	4 6
Beet, Red, doz.	0 6	0 0	Parsley, doz. bunches	2 0	4 0
Cabbages, per tally	7 0	0 0	Peas, per bushel	6 0	8 0
Carrots, per doz.	2 0	8 0	Potatoes, cwt.	2 0	5 0
Cauliflowers, doz.	2 0	8 0	Shallots, lb.	0 8	0 0
Celery, new, per bundle	1 9	0 0	Spinach, per bushel	2 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	8 6
Endive, doz.	1 6	2 0	Turnips, bunch...	0 8	0 4
Leeks, bunch	0 8	0 0	Vegetable Marrows, doz.	1 0	1 6
Herbs, bunch	0 2	0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8 0	4 0	Lily of the Valley, 12		
Asparagus, Fern, bunch...	2 0	2 6	„ sprays	15 0	18 0
Carnations, 12 blooms	2 6	3 6	Maidenhair Fern, doz.		
Cattleyas, per doz.	12 0	18 0	„ bnchs.	6 0	8 0
Chrysanthemums, white			Marguerites, doz. bnchs.	3 0	4 0
„ doz. blooms	6 0	9 0	Mignonette, doz. bunches	4 0	6 0
„ yellow doz. blooms	5 0	8 0	Odontoglossums	5 0	7 6
„ bunches var.	0 6	1 6	Pelargoniums, dozen		
Eucharis, doz.	4 0	6 0	„ bunches	8 0	12 0
Gardenias, doz.	8 0	5 0	Roses (indoor), doz.	4 0	6 0
Geranium, scarlet, doz.			„ Red, doz.	2 0	4 0
„ bnchs.	6 0	9 0	„ Tea, white, doz.	2 6	5 0
Lilium Harrisii, 12 blooms	4 6	5 6	„ Yellow, doz. (Perles)	4 6	6 6
„ lancifolium album	2 6	8 6	„ Safrano, doz.	2 0	2 6
„ „ rubrum	2 6	8 6	Smilax, bunch	8 0	4 0
„ longiflorum, 12 blooms	6 0	8 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	8 0	Foliage plants, var., each	1 0	5 0
Aspidistra, doz.	18 0	8 0	Fuchsias, doz.	4 0	6 0
Aspidistra, specimen	15 0	20 0	Heliotropes, doz.	6 0	9 0
Chrysanthemums, per doz.	6 0	8 0	Lilium Harrisii, doz.	18 0	24 0
Crotons, doz.	18 0	6 0	Lilium lancifolium album	80 0	40 0
Dracena, var., doz.	12 0	80 0	„ „ rubrum	80 0	40 0
Dracena viridis, doz.	9 0	18 0	Lycopodiums, doz.	3 0	4 0
Erica various, doz.	80 0	60 0	Marguerite Daisy, doz.	8 0	10 0
Euonymus, var., doz.	6 0	18 0	Myrtles, doz.	6 0	9 0
Evergreens, var., doz.	4 0	18 0	Palms, in var., each	1 0	15 0
Ferns, var., doz.	4 0	18 0	„ specimens	21 0	68 0
„ small, 100	4 0	8 0	Pelargoniums, scarlet, doz.	6 0	8 0
Ficus elastica, each	1 6	7 6	Physalis, per pot	2 0	4 0



A DANGEROUS FOE,

AND one most difficult to cope with; an insidious foe, dangerous by day as well as by night, though night with its darkness enhances the terror. Every year brings its lists of farm fires, many accidental, a few the work of enemies. To those who are careful readers of the daily press, the fact that in 1898-99 fires have been very much more frequent must have presented itself. Some of us read casually, but even then we must have noticed that the proportion was greater than usual. That there has been a reason for this we think is clear. The last year and this will long be remembered as periods of prolonged drought, and the drought was not a summer's drought only; the winters, too, have been unusually dry. There has been everything to encourage conflagrations, and we regret to say there is not that caution manifested among farm employes that we should like to see.

Of course careless mothers and naughty children and the cheap match must come in for their proper share of blame, but it is to the responsible hands about a farm-stead that we would address our remarks. (We must first set ourselves right with our readers by observing that we are not agents for any insurance company, but we follow the advice we fain would give, and insure every stick, stone, and bit of stock we possess.)

It has always been said, and we have lived long enough to note the fact ourselves, that a fine harvest often means many smoking stacks. People are so afraid the weather may break that they will not allow the crops sufficient time to thoroughly dry and mature.

However dry grain may be when cut, the straw has still a certain amount of nature, and "gives again," and until that proper time has been given for that process, it is most unwise to stack. In what north country people call "slattery" weather the corn is obliged to stay in stook and the danger is averted.

These remarks apply equally well to the hay and Clover crops. For the last two years these crops have practically made themselves, and have been in such excellent condition that the veriest spark would set all on blaze in a few moments. There are few sights more awful and appalling than a blazing stackyard, and if it is appalling to an outsider, what must be the feelings of the owner, who sees the outcome of his year's work destroyed in a few hours?

So few, very few, homesteads have anything like an adequate water supply, and possibly the fire-engine procurable from the nearest town is of an antiquated pattern, if not altogether useless. Should the fire occur in the night the case is almost hopeless; fire does not need much of a start to get beyond the best efforts of man, and all that can be done is to save any stock housed in the adjacent buildings and preserve those buildings if possible. No one knows but a farmer the terrible straits he would be put to were he called upon to face a winter without proper buildings. It would in many places be absolutely impossible to get accommodation, even of the flimsiest kind, at short notice, and what would become of his poor stock should the winter prove inclement?

Liberal as the insurance office may be, its best allowance cannot compensate for the loss, inconvenience, and trouble. We may say the same about the loss incurred in a stack fire. Given a certain sum of money, the market value of grain, straw, and chaff, where is the farmer to turn to find a market where he may buy the straw and chaff he requires daily for his horses and beasts? Certainly for straw he may get peat moss litter, but that has to be carted from the nearest station, and it only serves the end of bedding.

For stock bulky food is required, the Oat and Barley straw supply this, and are most valuable in the bill of fare. We say much might be done to minimise the risk of fire. It is seldom that space is so

scarce as would appear. There is really no need to stack all the corn in one enclosure. When there is great bulk of straw we rather advocate stacking in the fields; it saves time in harvest, and you also have the feeling that if a fire should break out, the eggs are not all in one basket.

A windy threshing day is a source of danger, personally we never thresh in rough weather if we can help it. It is desirable that the master or a trusty man be constantly on the look out up to bed time after a threshing day—a little vigilance may save many thousands of pounds damage. It seems rather hard to deny a tramp or possibly a *bona fide* working man a night's lodging in the barn or stable, but it is a risky business at best, and should be avoided if possible. We know there are men who would sneak a night's lodging, hence the desirability of a last look round at night.

The elder labourers are not the great offenders, it is the careless lads (horseboys), who seem quite indifferent to the fate of pipe ashes or a half-consumed match. Nothing but a severe lesson will make them think, and orders on this point should be strictly enforced.

What can we say respecting the adequate water supply, when there has been a shortage for two years or more? Stack farther from the buildings; stack less closely together; exercise the utmost care on threshing days; forbid smoking on or about the premises, and keep children out of the stackyard, and you are doing what you can to minimise danger. Above all, insure, and do not let the policy lapse through the forgetfulness of pay-day. The officials are good; you always have a warning when the time is near, and there are agents scattered all round, possibly one in your own village, certainly one in the market town.

We have only considered fire as attacking the housed produce. Those whose fields abut on a railway line have to contend with the danger as represented by flying sparks, and that is a real danger, as we know to our cost. Many of our readers will recall instances they have seen this summer if they have done much railway travelling. When from seed time to harvest hardly a drop of rain has fallen on a Barley or Oat crop, it does not need a prophet to foretell the result should a breeze drive and fan a spark among standing corn or corn in stack. The devastation is rather like that worked by Samson and his fire-branded foxes.

WORK ON THE HOME FARM.

Although there has been no heavy rain, we have had some almost every day, and all the difficulties caused by the drought have passed away. As a fact there has now been quite sufficient moisture for present needs, and more work could be got through if we were to be favoured with two or three weeks of fine autumn weather.

A crop of Twitch is waiting for a favourable day for being put through a fiery ordeal. There is not enough of it to be worth carting off, and it must be burnt when possible—i.e., dry enough.

If not already with them, rams must be put with the ewes at once; the latter will then begin to lamb down about March 5th, which is early enough, unless fat lambs are the chief object. An early start does not mean an early finish, for all will not lamb before the end of March. The ewes must be kept in a thriving state during the next month if a good fall of lambs is to be secured. Rape and Mustard are capital food for the purpose, and if hand food is given a little Barley, say $\frac{1}{2}$ lb. per head per day, will be the most beneficial. If Rape is not available, Barley stubbles that are well planted with Clover will provide a good and suitable pasture; but avoid old bare seeds, especially of two or three years growth.

It is too cold now to keep working horses out at night on grass, at any rate with safety. Instead of putting them into an open field, they can be turned into a foldyard, where there is a good warm shed well bedded, and we know farmers who sleep their horses thus all winter, and only use the stable for cleaning and feeding purposes.

Close attention must now be given to the cattle; a cursory glance or two will not be sufficient. As the weather becomes cooler and cattle commence to assume their winter coats the appearance is apt to be deceptive, and the animals may be losing their good condition rapidly, while still looking healthy and well. The yearlings which show the least sign of falling off must be brought up at once and housed at night, in any case having an allowance of hay and linseed cake.

On breeding farms this is a good time to consider the condition of the whole stock, and weed out for sale those animals which have not been paying for their keep. If they do no good on summer keep, they will surely not pay for the greater expense of winter.



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Journal of Horticulture.

THURSDAY, OCTOBER 12, 1899.

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MALMAISON CARNATIONS.

THESE Carnations are, perhaps, the most popular flowers of the day. Everybody who possesses a garden talks about them, and even those who have no facilities for their culture are charmed with their beauty and fragrance. Those who have glass must have Malmaison Carnations. The amateur with his small greenhouse tries his hand, and if successful displays no mean pride when the flower is in his buttonhole, while the cottager with his erection made out of two old broken greenhouse lights and a flue of drain-pipes, strives for the prizes in the local cottage shows.

This is the time when the cultivation of the plants should commence by obtaining well-rooted, strong, healthy clean layers. Weak layers are better than none, if clean, but special treatment and care must be given. There is a tendency, if the constitution has been weakened by improper methods of culture, for the plants to spindle and flower, but they frequently fail to make grass for layers. This was the rock on which we first failed; the plants were weak, and potted in poor material. I recently heard of a large grower who wanted a new stock, as his plants had failed to produce grass, and I was not surprised to hear this, as two years ago the stock was extremely weak and the treatment pursued was most unsuitable. Every bit of puny grass had been layered for stock.

The enormous demand for Malmaisons has resulted in a large number of varieties being placed on the market, some of which are good, others promising, while several are not worth house room, though they may have been commendable in the first instance as a break for colour from the three or four existing varieties. It is useless nowadays to multiply varieties of inferior merit.

Long lists for beginners are confusing, and even to old practitioners they are bewildering. We took up a catalogue the other day, and could scarcely recognise an old friend in it. In a large collection we saw recently King Oscar was the only one selected, although a few of the others when well grown may prove invaluable for their colour.

Beginners would do well to start with Princess of Wales, and then add others to the collection as they master cultural details. This is undoubtedly the best of the pinks; it possesses a good constitution, is a stronger grower than the old blush, and not so liable to disease. The old form somewhat recurves its outer petals, and under certain conditions loses colour rapidly, bleaching to a very light shade, while the Princess has none of these faults.

The plants selected must not have been drawn during the process of layering. This is too often done with the object of gaining time; on the contrary, however, we are losing it, and prejudicing the plant's constitution. If the plants are hurried after layering, to force the emission of roots for potting it results in drawn stock, that can never, even with the most skilful after treatment, prove satisfactory; it must therefore be avoided, and a more natural method instituted.

It will perhaps be as well to briefly describe the process of layering. It is generally understood that in youth there is vigour, and consequently we prefer one-year-old plants that have carried one flower. We do not necessarily confine ourselves to these, but if two-year-old plants are used, all weakly shoots are removed, and only the strongest retained. Before layering, all old foliage at the base is removed to within 4 or 5 inches of the top of the shoot or layer. By this means we have done much to clear out the disease from our plants. There is also another advantage. Such layers when rooted and potted have large foliage at the base, and the plants, when they produce grass, are furnished to the rim of their pots. How often do we see them, like miniature standards, with a leg 6 or more inches in height? This is the result of selecting long growths for layering. It is no more trouble to practise a system that one knows will favour excellent results than it is to follow methods that are known to be faulty from the outset.

All the plants are layered in 6 feet wide frames made of deal planks 11 inches deep and 1½ inch thick. These are nailed to stakes driven into the ground. The lights fit closely together, there being no main bars between them. These frames are placed on ordinary garden soil, and across one end a trench is made with a spade large enough to hold a row of plants as thickly as we can conveniently place them without unduly crowding the layers. On the top of the garden soil is spread 3 inches of compost in which to layer the growths. This is firmed down as the process of layering proceeds, and consists of turfy loam, leaf mould, and sand. The cut is started at a joint, and extends from 1 to 1½ inch up the stem. The tongue of the layer is then placed in a hole made for its reception with the finger, the stem being pegged down with one of Sydenham's layering pins, which are cheap, better than home-made ones, and with care last for years. The old stem is lightly covered with soil, the object being not to bury the collar of the young plant too deeply.

As the layering in each frame is completed a slight watering is given, the light being replaced and the layers shaded. The surface of the soil is kept damp afterwards by the aid of the syringe. The lights are kept close and shaded daily during bright sunshine until the layers stand upright. Air is then admitted, and is gradually increased with the commencement and progress of rooting. If the weather prove exceedingly wet, the lights are placed over them, but light showers cause no trouble. The plants are thus exposed until good roots have been formed, and the young plants can be properly lifted with balls for potting. It will be observed that the plants cannot become drawn and weakly from the abundance of air they receive, and the later stages are similarly natural. I wish to lay particular stress on the advantages that accrue to following the lines here suggested, as the difference between what may be termed a rational system and the reverse frequently spells success as against failure. Every successful grower does not necessarily adopt these precise lines, but the basal principles are invariably the same, the slight variations being in subsequent cultivation.

These details may be tedious, but they are necessary for beginners, and may save them trouble in finding out, as we had to do, by actual experience.—WM. BARDNEY, *Osmaston Manor*.

(To be continued.)

OUTDOOR TOMATOES AND THEIR USES.

THE subject of Tomato culture being one receiving a considerable amount of attention in the Journal, and the practice of cultivation outside having increased so much of late years, I venture to send a few remarks dealing with my experience in this respect—an experience based now over the last six years in two very different parts of England. Curiously enough my first venture was as successful as that of any succeeding year, excepting that, towards the end of the summer, which had been a very good one, heavy rains set in, with the consequence of disease being rather widespread and sufficiently serious to negative the benefit of particularly large fruit and heavy clusters. I grew, perhaps, this first year about 150 plants, and was so encouraged by the result, that I in consequence have grown largely ever since.

I say largely, for I cultivate them entirely for our own consumption, having various uses for them over and beyond what the generality of persons employ them for, as I will mention anon. I found the somewhat heavy clayey loam of Somersetshire, where I was living (between Yeovil and Taunton, on rather high ground), suited them apparently better than my later trials on a distinctly light sandy loam in Warwickshire. In the former county I grew them almost entirely between the rows of Strawberries, and they seemed quite content to flourish in the half-spent manure that had been spread for the benefit of the Strawberries before the winter. This said manure, I may mention, as a contribution on the vexed question of peat moss litter, was of the latter mixture, and I never had any ill results either to the Tomatoes or the Strawberries from its use. Indeed, my Strawberries were the admiration and envy of all our neighbours. I had, too, an unlimited amount of liquid manure which, if the weather was at all dry, when in fruit they received pretty liberally. Another excellent place where they cropped most heavily was the Vine border. Here, too, they were in ground whose dressing had been put on some months previously.

This present summer here in Warwickshire rich soil certainly made a marvellous difference. About 200 plants outside were cultivated, and for the most part planted between the early Potato rows when the haulm was dying down. The soil is light, and had not been enriched. The result, owing to the extreme and prolonged drought, was not satisfactory. Numbers of the plants made very insufficient growth, and became badly crippled by fly, the consequence being very little fruit came to maturity. A good minority of the plants, however, were fortunately planted in stronger or manured ground, and less exposed to the full glare of the sun, and these cropped, perhaps, almost as well as they invariably did in my Somerset garden.

Apart from the fly trouble this year, I may mention that hardly half a dozen plants per season have failed since I have grown Tomatoes, and these have been mostly early in their growth and apparently from wireworm, or other disease at the roots or in the haulm, and not from disease in the fruit itself. The variety chiefly grown has been all along Sutton's Earliest of All, which for our private purposes has been perfectly satisfactory. On the whole, I think only one season were the fruits themselves attacked, and that was my first year, when disease was rampant among Potatoes also all over the country. Apart from this, the produce has generally attained to a fair size.

Considering that I do no thinning, and except on occasions late in the season, and notably at the present time, very little cracking has resulted. Excepting that I make for good sturdy plants, beyond keeping well tied up to their stakes and planted as much in the open as possible, but with a protecting wall not far behind them to give them a south or south-east aspect, the only assiduous care they require I find when firmly established is to keep slipping off all side shoots and topping the plant itself about mid-August, when also I cut away a good deal of leaf growth, severing the leaf not entirely, but about half its length. It must not be imagined, however, from these notes that my fruit necessarily ripens outside—*au contraire*, a very large portion does not. Indeed, I make a practice all through of cutting when of mature size, and ripening under glass. I suppose the flavour is not so good, but for culinary purposes probably the difference is hardly appreciable.

And this brings me to the various uses to which Tomatoes may be put. Growing so many plants merely in a private garden (for we have besides another 100 plants under glass), it may seem surprising how we can consume all the produce. It is true towards the end of the season some 50 to 100 lbs. have been generally sold, as being beyond our requirements, and have realised without being pushed about 3d. per lb. But the main bulk of the Tomatoes, some 200 to 400 lbs. indeed, we have found an actual use for. Used fresh in the ordinary way for luncheon or breakfast, or in salads, is responsible for a considerable quantity. Many more merely stewed account for another good quota, while others are employed to fulfil the functions of an *entrée* at dinner, served in many cunning and epicurean methods, according to the skill and enterprise of the cook.

But a further and invaluable use for them I have still to advocate—viz., make them into jam. We make about 100 lbs. of it every year, and most delicious it is, generally indeed the favourite preserve

among our visitors. It must be slightly flavoured with ginger, and can be made either with ripe fruit or the small green ones at the end of the season which may not be able to be ripened. The flavour is a little different, but whether made with the green or the ripe fruit, the result is invariably excellent. We have sometimes introduced a little Vegetable Marrow with it, and found it made a delicious variety. As Tomatoes ripen very gradually in a cold temperature many of the latest may be stored like Apples, and their use thus prolonged even well into the winter.—J. A. CARNEGIE-CHEALES.

AMONG THE ASTERS.

In her book, "Wood and Garden," Miss Jekyll says of her garden of Asters, "It is a delightful surprise to pass through the pergola's last right-hand opening, and to come suddenly upon the Michaelmas Daisy garden in full beauty. Its clean, fresh, pure colouring of pale and dark lilac, strong purple, and pure white, among masses of pale green foliage, forms a contrast almost startling after the warm colouring of nearly everything else; and the sight of a region where the flowers are fresh and newly opened, and in glad spring-like profusion, when all else is on the verge of death and decay, gives an impression of satisfying refreshment that is hardly to be equalled throughout the year."

As one looks now on the Starworts we cannot help quoting these words, so expressive are they of one's feelings towards the flowers. Truly refreshing and cheering are they when the glory of summer has gone, and chilly days, and still chillier nights have come. Little wonder is it that the Starworts are such favourites now. Yet it seems only a few years since they were almost despised; only a short time since they once more found their way into good gardens. "Once more," one says advisedly; for in years now long gone by they were largely grown and prized. Although the gardeners of the time had not many of the fine flowers we now possess, they had some not in our gardens now.

As a proof of this, one has only to turn to the work called "Hortus Woburnensis," published in 1833, which names upwards of 100 Asters, which were at that time grown at Woburn Abbey, the seat of the Duke of Bedford. Some of these do not appear to be procurable through the ordinary sources. As a compensation for the absence of these we have many beautiful seedlings, which surpass in loveliness the original flowers from which they sprung. These are now so numerous that only those who have large gardens can hope to grow a full collection. Few things would give so much pleasure at so small a cost, and with so little trouble.

The perennial Asters are adapted to many uses. An Aster garden is in late autumn a real, but inexpensive luxury for those who love flowers and have space enough. Such a garden might be composed of beds on the grass or, even better, in exposed places in a situation sheltered from the north winds by a wall. This would protect them from the bitter blasts, and thus prolong their beauty. Failing a wall, a belt of trees would do much to keep the Asters gay long after other flowers were blackened wrecks of their former charms.

As border plants they are indispensable among other hardy flowers, and if judiciously arranged so that they are distributed in groups in the border, will make it pleasing at a time when it would be bare save for the starry flowers of the Michaelmas Daisies. Some find it worth their while to grow the Asters in the reserve garden or in pots, and to remove them to the borders when some of the earlier flowers have gone out of bloom. There are a few, also, who grow a few Starworts in pots for conservatory decoration. If potted in good strong soil and plunged in the open until they are ready to bloom the protection of the glass will give the flowers a freshness and clearness of colour which will make their prettily coloured blooms unusually attractive.

The Asters are also frequently used in combination with other flowers for autumn bedding. A rather common but pretty effect is that made with Aster novi-belgi *lævigatus*, generally known as *longifolius formosus*, and *Chrysanthemum* *Mad. C. Desgrange*. Other low growing Michaelmas Daisies, such as *A. amellus*, are also used in a similar manner.

Michaelmas Daisies are of such easy culture that we are apt to think that they need no attention whatever, but may be left to take their chance with other things. This leads to starved plants and inferior flowers, and, in the case of those which are of stoloniferous habit, an invasion of the place wanted for other flowers, with the result that the Aster acquires an evil reputation; while all the time it is the grower who is at fault. Starworts like a good soil, deep cultivation, and plenty of water during growth. They well repay the cost and trouble these involve.

It is by no means easy to name a selection of Asters without omitting many quite as good as those included. The lists of nurserymen generally give fairly full descriptions, which will be a sufficient guide to those desirous of purchasing. This may be done either in autumn or spring.

Among the earlier flowering Asters one may name as worth growing the useful *acris*, with its variety *dracunculoides*, which is taller and has darker flowers. The flowers of *acris* are starry in form, but are produced in great profusion. *Amellus bessarabicus* and the variety *major* are indispensable. One may also name *lævis Arcturus*, *novi-belgi lævigatus*, *n. b. Madonna*, and *ptarmicoides*.

Coming into bloom in September there are a great many of the finest of the Starworts. There are, for example, the charming *Coombe Fishacre*; the varieties of *cordifolius*, such as *elegans* and *Photograph*; the dwarf *dumosus*; *ericoides Clio*; *lævis*, and its variety *Harvardi*; *Lindleyanus nanus*; *Linosyris*, the old yellow "Goldilocks"; *novæ-angliæ roseus*, *ruber*, and *Wm. Bowman*, and too many varieties of *novi-belgi* to select from without serious omissions. *Ceres*, *Ella*, *F. W. Burbidge*, *Irene*, *John Wood*, *Margaret*, *Mrs. C. W. Earle*, *Robert Parker*, and *Top Sawyer* may be mentioned as of high quality. Then we have *paniculatus W. J. Grant*; *punicus pulcherrimus*; *versicolor Themis*; and *vimineus Cassiope*, all very fine.

There are not so many which come into flower in October, but a number of the earlier Starworts will still be in bloom to keep them company. We cannot be wrong in growing *amethystinus*, *diffusus horizontalis* and *pendulus*, *ericoides*, *lævis Calliope*, *novæ-angliæ pulchellus*, *novi-belgi Berenice* and *Maia*, *Tradescanti*, and *turbidellus*. Unfortunately, one of the finest, and the latest of all—*grandiflorus*—comes too late for many gardens in ordinary seasons and does not open. In fair weather or foul, in rain or in frost, in the garden or as a cut flower, the Aster will prove invaluable in its time.—S. ARNOTT.

THE VINE.

The recently formed Kingston and District Gardeners' Mutual Improvement Society held the first meeting of its autumn session on Monday, October 2nd. A goodly number of gardeners assembled to hear Mr. Smith's (of Coombe Court Gardens) lecture on "The Vine." The advice given may be summarised thus:—

Raise young Vines from eyes placed in bottom heat early in January, grow without check, but aim at a hard, matured growth rather than a soft, sappy growth of, perhaps, three times the size. To obtain this air must be freely given; indeed, the burden of the lecture seemed to "air" day and night. Plant out young canes in May 2 feet apart, in a border composed of loam two parts, burnt earth one part, brick and mortar rubble and crushed bones one part, and if wireworm is feared add half a bushel of soot to four loads of soil. Deep borders are not necessary, 2 to 3 feet being ample.

Crop each alternate Vine as heavily as possible while the remainder are building up rods for permanent use. The cropped Vines can then be cut out, leaving the house furnished with rods 4 feet apart. Established vineries should be started by covering the outside border (if any) with leaves 3 feet deep to keep off excessive rainfall and to conserve warmth in the soil. Close the house a month before applying fire heat, then gradually increase the temperature until 60° is reached at about the time the buds are breaking. Increase to 65°, but never go beyond this figure at night. Always give a little air at night, that and a comparatively low temperature being more natural and beneficial, as favouring natural rest at some period of the twenty-four hours. Also there is much less danger of bad attacks of thrips, red spider, and the effects of scalding, if airing is attended to, for the hard foliage is practically proof against insects, and no moisture will be deposited to cause scalding. Highly coloured Grapes of fine flavour result from this treatment.

A lean-to house is the best for early work, the back wall keeping off cold winds, and so conserving the heat. Span-roofed structures are preferable for midseason varieties, as they are capable of better ventilation, and if built north and south the Vines escape the burning rays of the sun at mid-day.

For early cropping plant Black Hamburg, Buckland Sweetwater, and Muscat of Alexandria; the latter because it gets the long growing season necessary to this variety. For late use there is nothing better than Lady Downe's and Alicante. The new variety, Lady Hastings, was recommended as a strong and easy grower, which finishes well and will keep till Christmas.

The long-spur system of pruning was considered the best, as it allows one to choose the best bunch on the spur, and the spur can be kept within bounds by pruning to the back bud. One or two minor details were mentioned, such as fixing supporting wires at least 2 feet from the glass, being careful not to paint Vines in winter with any sticky substance which stops up the pores of the Vine, and therefore is detrimental to its health.

There was some discussion as to the advisability of covering outside 3 feet deep, some members being of opinion that heavy coverings are unnecessary. The lecturer, however, maintained that it was needful as a means of exciting root action before the buds burst, for he was of the opinion that the roots should be helped along first.—J. T. BLENCOWE, *Eastcott House, Kingston Hill*.



LÆLIO-CATTLEYA ELEGANS HAROLD MEASURES.

THE completeness of the collection of *Lælio-Cattleya elegans* at The Woodlands, Streatham, is recognised by every Orchid grower—more particularly, of course, those who are specially interested in this charming bigener, of which there are many splendid representatives. A few weeks ago Mr. J. Coles, gardener to R. H. Measures, Esq., sent us a few blooms from which we chose *L.-C. elegans* Harold Measures for reproduction. It is from a cross between *L.-C. elegans blenheimensis* and *Cattleya superba splendens*. As may be seen from the woodcut (fig. 62) the flower has immense substance. The sepals are pale green, occasionally spotted with crimson, and have a light rose margin; the reverse is clear rose. The petals are cream, with bright rose venations and suffusions. The broadly expanding lip is glowing magenta with paler margins; the throat is lemon.

CYPRIPEDIUM FAIRRIEANUM AND ITS HYBRIDS.

WHAT connoisseur would not like to possess the whole of the members of this beautiful section of *Cypripediums*? But whilst many of us are waiting patiently for the reintroduction of *C. Fairrianum*, we are still able to indulge in the beauties of some few of its offspring. Several of this section are considered "miffy" and bad growers, which I attribute to the plants being placed in too much heat and light. I find they grow luxuriantly in a cool intermediate house overhung with a large tree, which tones down the light even in the brightest weather, and, of course, does not interfere with it much in the winter months, it being deciduous. Air is admitted on all favourable occasions, and the plants are grown in two parts peat to one of moss in rather small pots. The following comprise the best known forms, and several of them are rather scarce even at the present time.

C. Arthurianum resulted from a cross between *C. insigne* and *C. Fairrianum*. It is fairly well known, and is a good grower. The petals are pale green faintly spotted with purple in the lower half, veined with deep crimson in the upper half, and turned downwards like *C. Fairrianum*. The dorsal sepal is pale yellowish green, broadly margined with white on the upper part, veined with blackish crimson. The lip is veined and mottled with brown on a pale greenish yellow ground. The flowers appear in the autumn months and continue a long time in perfection.

C. Arthurianum pulchellum (fig. 61) is much superior to the preceding, having a broader dorsal sepal, which is covered with larger spots, and is richer and deeper in colour. The former was first shown on October 10th, 1882, and the latter November 1st, 1892.

C. Baron Schröder, a most beautiful hybrid, is unfortunately very scarce, and is a cross between *C. ænanthum superbum* and *C. Fairrianum*. Not having a description to hand, I hold over to some future time; it received an F.C.C. November 24th, 1896.

C. Fairrieano-Lawrenceanum, hybrid between the two species mentioned, was obtained by T. Statter, Esq. The general appearance of the flower reminds one of the first named species, with some of the size of the latter, especially in the dorsal sepal. The colour of this organ is white in the upper part, flushed with green at the base, the whole covered with thick crimson purple lines. The petals are green striped with purple, the stripes being broken into spots at the basal half. Lip greenish purple. It received an A.M. when shown before the R.H.S. November 28th, 1893.

C. H. Ballantine resulted from a cross between *C. Fairrianum* and that little gem *C. purpuratum*, and is, perhaps, one of the most chaste and beautiful flowers in the family, and is best described as intermediate between its parents, the petals having the graceful droop of *C. Fairrianum*. It received an F.C.C. from the R.H.S. August 12th, 1890.

C. Juno was raised by Mr. A. J. Keeling, when gardener to D. O. Drewitt, Esq., from *C. callosum* and *C. Fairrianum*. It is a dwarf grower, its leaves rarely exceeding 4 inches in length. The flowers resemble *C. Fairrianum* in size, with a rather flat dorsal sepal of a bright purple colour, nerved and slightly reticulated with a deeper purple, bordered with white and green at the base. The petals, which curve downwards, are light green purple at the extremities and margins, with several dark purple brown spots running over the whole. The pouch partakes more of *C. callosum*, being longer and more acute than its other parent; it is olive brown in colour, veined with purple. It received an F.C.C. February 9th, 1892.

C. Niobe is the result of crossing *C. Spicerianum* with *C. Fairrianum*, and is a plant that well repays the hybridiser for all disappoint-

ments. The flowers are about 3 inches across, the dorsal sepal being white flushed with flesh colour, having a broad central streak of rich purplish brown, with a small patch of green at the base, and some thin streaks of light magenta up each side and through it, but all ending below the margin, which leaves a border of pure white. The petals, which recurve like *C. Fairrianum*, are pale apple green, with a broad central stripe of brown or chocolate, and a few dotted lines of brown. The margins are beautifully undulated. The lip or pouch is pale green, flushed with brownish magenta, veined with green. It is a handsome winter-flowering plant, and received an F.C.C. from the R.H.S. December 10th, 1889. *C. Niobe superba* is a highly coloured variety of the preceding, and is identical with *C. Niobe*, Short Hill's variety.

C. regina is a hybrid from *C. Læcanum* and *C. Fairrianum*, and from a drawing in front of me must be most attractive, but not having seen it, so I will pass it over. It received an A.M. November 12th, 1895.

C. vexillarium, although last on this list, was raised by the late Mr. J. Dominy between *C. Fairrianum* and *C. barbatum*. The flowers are exactly intermediate. It is a plant of dwarf growth which produces large flowers for its size, and is not often seen in robust health, but well repays any trouble that may be bestowed upon it. The dorsal sepal is white suffused with light purple, marked with port wine coloured veins. The petals are deflexed, the edges slightly wavy, and oiliate purplish tinged with green. The lip is large, light brown veined and tinged with green. *C. vexillarium superbum* is a stronger



FIG. 61.—CYPRIPEDIUM ARTHURIANUM PULCHELLUM.

grower, and the flowers are larger and brighter in colour. The original plant of *C. vexillarium* received an F.C.C. from the R.H.S. Jan. 18th, 1871.

The family comprises some of the most beautiful of the autumn- and winter-flowering *Cypripediums*.—J. BARKER, *Hessle*.

POPULARITY OF THE MONTBRETIA.

IF evidence were required of the rapid advance in public favour of these flowers, either for the adornment of the garden or in the cut state, so far as the latter aspect of the case is concerned their utilisation at Shrewsbury would provide it. The rich orange-scarlet colouring of especially *Montbretia crocosmæflora*, however, requires it to be employed judiciously if a light and tasteful effect is desired, and if a case in point were required mention might be made of one or two instances at the Shrewsbury Show, such as the decorations of the dessert tables, wherein there was a somewhat lavish display of the *Montbretia* bordering on heaviness, though in one instance it was relieved by spikes of the Bridal Wreath (*Francoa ramosa*), and in this respect the writer overheard more than one fair visitor remark

that the floral portion of the dessert tables was not so good as usual, being heavy and monotonous.

To one of the tables, however, this criticism did not apply, as it was universally admired—viz., the decoration on the second prize table, consisting as it did chiefly of sprays of the elegant *Heuchera sanguinea*, with a slight intermixture of the elegant pale yellow-flowered racemes of an *Acacia* and light greenery, and respecting which latter element it may be said the *Montbretias* or *Tritonias* never appear to better advantage than when supplemented with their own foliage, particularly that of the narrower-leaved varieties, but which, if I mistake not, were *non est* at the Shrewsbury Show. *Montbretias elegans* and *Golden Sheaf* are admirably suited for the purpose indicated.—W. G.

SEASONABLE HINTS ON FLORIST FLOWERS.

AURICULAR.

THE very extraordinary and disappointing season of 1899 is now drawing to a close, and while its effects have been most injuriously felt by all florist flowers, I think, perhaps, the *Auricula* has suffered most. We well remember how disappointing the blooming season was: how at our great Southern Show some of our best exhibitors were absent, and none of our northern growers put in an appearance; and an *Auricula* Show without the Rev. F. D. Horner, Ben Simonite, and others of that ilk, left very much to be desired. No new varieties were brought forward, and a sort of paralysis seemed to have seized the whole subject; at the same time some of our most experienced growers thought that this was not merely a temporary but a permanent state of things. As far as I am personally concerned, of course, advanced years make it necessary for me to grow fewer plants, and, as I look upon my small collection now, I heave a sigh when I think of what it once was, but I must submit to the inevitable. I have given away many of my plants, but those that remain still require careful attention.

The excessively dry summer has not been favourable to them; they required constant watering, and this is not good for plants in pots, especially as, having had no rain of any consequence for some months, one was obliged to use spring water, which is strongly impregnated with lime, and is therefore not very good for plants in pots. But on the whole I think my collection looks fairly well, for although the summer has been very dry it has in one respect been good for them; they have not suffered from that which *Auriculas* very much dislike, "drip"; they may be shifted into their winter quarters, that is, into a pit or frame facing south. I think it is well to give them a slight fumigation. Water ought to be very sparingly given for some time, but the soil must not be allowed to become dust dry.

CARNATIONS AND PICOTÉES.

It will now be time to take off the layers and pot them in small pots in sandy loam, for I do not believe in the plan of leaving them in the ground, and making up the beds in the autumn; whether they are grown in named varieties or seedlings I should pot all. There has no doubt been a great change in the character of collections of these flowers, and one must regret the loss of many old and beautiful striped Carnations and delicately edged Picotées; the modern race of border varieties is showier and more attractive, and this is what is really sought after in these days—in a very short time there will be nobody left who can dress a Carnation. Of course the stands of flowers exhibited by Mr. Turner, Mr. Douglas, and others were very beautiful, but at the same time deceptive; persons who saw these regular and beautifully marked flowers ordered them, and they were much disappointed when their gardeners could not produce flowers like them, being ignorant of the fact that they required so much manipulation and careful handling.

CHRYSANTHEMUMS.

The sooner these are placed out of harm's way, so far as weather is concerned, the better; they ought now to be under shelter. I have found a glass-covered shed open at the side very useful for this purpose, but then I am not an exhibitor, and do not care for the immense mops which are now so much in vogue. I prefer plants more naturally grown, that carry a number of blooms suitable for decorative purposes. A moderate amount of staking is all that is required, and if wished they may be disbudded, and only one flower left on the shoot. I need hardly say that for this decorative purpose the Japanese are best suited; the incurved varieties are too formal. Water must be continually given, as if once allowed to flag the beauty of the plant is destroyed. One great object is to keep the foliage green down to the pot.

GLADIOLUS.

Many years ago when I was complaining to a grower of these beautiful autumn plants that I had so many losses amongst them, he

said "You ought to grow seedlings, and then you would not have the vexation of losing stock which cost you 5s. or 10s. each." I tried some, but they were so inferior that I did not repeat the experiment. Since those days more care has been taken, and instead of saving the seed indiscriminately, the flowers have been cross-fertilised. I have, therefore, after forty years' cultivation, nearly abandoned named varieties of the *gandavensis* section, and rely chiefly on the seedlings. The season has, I think, been a favourable one for maturing the corms, and unless we get very heavy rains this month, they ought



FIG. 62.—*LÆLIO-CATTELEYA ELEGANS* HAROLD MEASURES.

to lift in good condition. They should now be dried off as soon as the foliage becomes yellow, and laid out singly on shelves in some place where frost cannot reach them.

The *Lemoinei* and *Nancianus* groups have been considerably improved, and although they are not absolutely hardy, yet they will, I think, survive our winters if the bulbs are covered with either ashes or cocoa-nut fibre refuse; of course, not disturbing them. I have not tried the *Childsi* group, which are of American origin; nor, indeed, have I seen them, but I am told that they are large and bright in colour. Where it is desired to save the spawn of the *Gladioli* it should be rubbed off the old corms and put away in bags with dry sand.

ROSES.

October will, of course, be a busy month to all growers of the Rose, taking away the varieties which are discarded for one cause or another and planting new ones. There is a preliminary step which I strongly recommend—that is, the cutting away of all old wood which has flowered this year, and all spindly shoots which do not produce flowers of any value. When this is done the plants will be more open to the influence of sun and air than if they were crowded with shoots. It would be well to put stakes to all very long shoots of this year, so as to prevent their being blown about by the wind. Every year, perhaps, shows that there are some which we formerly cherished must be cast out, and although there are not very many new ones, yet there are some which growers would do well to introduce. The sooner the plants are obtained from the nursery the better.

TULIPS.

The day of these gorgeous and stately flowers, so far as the rectified forms are concerned, has, I fear, vanished; even in the north of England, where they held their own for a much longer time than in the south, the same story has to be told. It is a great pity, for one of the charms of the gardens where they were grown was beds of these beautiful flowers. I remember numerous collections of them in the neighbourhood of London, and now I cannot put my hand upon one. I know there is one nurseryman who has striven to resuscitate them, but I question much whether he will succeed; but should anyone desire to commence their growth now is the best time to obtain roots.—D., Deal.

THE CHILWELL NURSERIES, LOWDHAM.

NATURALLY, the reader on seeing this heading will say, "But how can that be; how can the Chilwell Nurseries be at Lowdham, and why Lowdham?" The answer is in this wise. The far-famed nurseries of Messrs. J. R. Pearson & Sons, which have been located at Chilwell, some five or six miles S.W. of the city of Nottingham, since the year 1782, have by the force of circumstances removed themselves to Lowdham, which is about eight miles N.E. of the city and county town, and the firm has decided to maintain the old name for familiarity's sake, in the title of their new venture, so that now the style and title of these new nurseries is "The Chilwell Nurseries, Lowdham, of Messrs. J. R. Pearson & Sons."

To prevent misunderstanding and false conclusions, and to clear up what to many persons may appear a risky and unnecessary thing to do—to remove an old-established business from the place it has occupied for a great number of years, that the very mention of the name suggests the firm and the business—it must be known that the commercial industries of lace and hosiery, cycle manufactories, iron-works and collieries have pressed so closely upon them in these latter days that the health and well-doing of the stock of their business had begun to be interfered with, more particularly as to cleanliness of foliage of trees, bushes, and evergreens; and the pestilential vapours consequent of these industries was felt to be exercising a deteriorating influence on the glass houses and the occupants of them. These effects being a first consideration with the firm, there was nothing for it but to look for "fresh fields and pastures new." It was no doubt a painful conclusion to arrive at, to decide to leave a place which the present proprietors' grandfather had established in the last century, which their father had improved and extended, and which was their own birth-place and a business they had very materially developed on present-day lines. Necessity, however, knows no law, sentiment must stand aside. The decision to move was made, and the "trekking" had to be done.

The N.E. side of Nottingham, in the valley of the Trent, is a noted place for the healthy and prosperous growth of fruit, especially stone fruit, Plums, Damsons, Cherries, but Apples and Pears as well. It was in this locality that a most noted fruitful Plum was raised, commonly called "Johnny Raw," but it should be "Johnny Roe." It is a large, roundish Plum, crimson in colour, and a splendid cooker, and competes, and often holds its own, with that most prolific of all Plums, Victoria. Nottingham market has been well supplied with "Johnny Raws" this autumn. It was in Lowdham that the Messrs. Pearsons discovered that there was a little estate of about 100 acres in the market, and they promptly secured it some three years ago and commenced operations.

It will easily be understood that these operations were by no means light, as the soil had been for years and years only ploughed on the surface for 6 inches or thereabouts: but an American plough and a subsoiler soon altered things, and now they have a tilth of 18 inches all over. The soil is an almost ideal one for nursery work, being a strong holding loam, with a slight suspicion of clay in it, and the land standing up out of the valley has a good natural drainage, and can, therefore, be worked all the year round. Lowdham is a purely agricultural village now, though a few years back it had a trade foulness in the shape of a tannery. This business declined, and the Messrs. Pearsons have taken over all the old buildings and converted them into offices, seed and bulb stores, packing sheds, and other necessities of their trade, thus conferring on Lowdham a business of "sweetness and light" for one of foul stinks—stinks numerous, vicious, and penetrating.

At the end of the last month the firm invited gardeners from all over the country to a sort of free and easy "at home," in order that they might know Lowdham and see with their own eyes the sort of stuff the new nursery produced. As one of the visiting gardeners we may say that it filled one with wonder and amazement to see the quantity of splendidly healthy stock—fruit trees, Raspberries, and Roses—in three years gradations, which had been got together in the short space of the three years. It represented the expenditure of much capital, close personal superintendence, and well directed unremitting labour. Indeed, to transform a badly worked farm into a nursery in three years—cutting hedges, making roads, and deeply cultivating such land—means labour, and close and severe labour too, to say nothing of training and staking some 30,000 trees, and training some 20,000 more, besides keeping them all free from insects and true to name. Indeed, it came out incidentally that last year the labour bill had been £3000, and for stakes alone £150 had been paid.

It is interesting to watch the development of a business on new surroundings, and it is of all things most interesting to think over the destination of the thousands and thousands of fruit trees and plants which are propagated, trained, and finally disposed of all over the country. It is curious to think of what is the disposition of this one nursery, but it is amazing when we think that this nursery is only one of hundreds in every part of the kingdom which are sending out these countless thousands of strong, healthy, young fruit trees, and

the question may be asked, Where do they all go to? The answer to that may be difficult to find by those whose lot is cast in a circumscribed area, but on the question being put to Mr. Alfred Pearson, who is the head of the fruit department, he said, "Oh, all over the country, but as many are going to South Africa;" and he went on to say that that country would, in his opinion, eventually become one of the finest fruit-producing countries of the world.

The three brothers work together most unitedly and harmoniously. Mr. Alfred, who resides in Nottingham so as to be centrally situated, takes the fruit department, and, despite this duty, and many other engagements, finds time to attend the Fruit Committee of the R.H.S. Mr. Charles, still residing at the old home at Chilwell, where much glass remains in use, presides and manages the flower trade and glass-house department, and he also puts in many attendances at the Floral Committee of the R.H.S.; whilst Mr. Duncan, resident at Lowdham, looks after (no light job!) the seed and bulb departments, and is the photographer of the firm, as all the catalogues show.

Every gardener, both of the present and the passing generation, and more particularly the latter, will be interested in watching the development of this new venture in the business of Messrs. J. R. Pearson & Sons, of the Chilwell Nurseries, Lowdham, and will join in wishing it an ever-increasing prosperity.—N H. P.

HARDY DAPHNES.

DAPHNE Mezereum is perhaps the commonest of all the hardy Daphnes, for although one does not see it in very large numbers at any one place, it is frequently met with in different parts of the country, especially in cottage gardens. In this neighbourhood it is very common, and is termed by the cottagers Mezereon Tree. Passing through a village some time ago I noticed a good specimen growing against a cottage door, and asked the owner if he would allow me to take its dimensions. It was 4 feet in diameter, and about the same in height. I have read that this shrub is rather short lived, but this one has been growing in the same position for a number of years. The plant is said to be wild in several parts of Britain, but is not believed to be a true native.

Some of the Daphnes are not very showy, but this one is desirable both for the beauty of its flowers and for their delight'ul fragrance. There are several varieties, but they differ little except in the colour of the flowers, which vary from white to dark red or purple. The flowers appear before the leaves, and are followed by red berries. In some districts there is considerable difficulty in getting the seed to develop, while in other places the plant reproduces itself quite naturally, coming up almost as freely as weeds. There is an autumn flowering variety which is unknown to me that commences to flower in October, and is said to remain in bloom all through the winter.

D. laureola, also termed Spurge Daphne or Spurge Laurel, is not so showy a shrub as the above. It should, nevertheless, be included in all gardens where sweet scented flowers are prized. It is a low bushy evergreen shrub; the leaves are thick, dark green, and glossy. The flowers are small and inconspicuous, yellowish-green in colour; they are produced in the axils of the leaves, and appear very early. The berries are poisonous, but are said not to be so to birds. If a plant is introduced here and there amongst other shrubs in the pleasure grounds, it will be sufficient, for the perfume is detected a long way off, and one may be at a loss to know whence it comes. The perfume is more noticeable in early morning, or in the evening. D. laureola is sometimes found growing wild in this country.

D. cneorum is an evergreen trailing shrub, growing about 1 foot high. It has very small leaves and bright pink sweet scented flowers, which are much darker coloured in the bud state. Its common name is the Garland Flower. It is essentially a rockery plant, but is also suitable as an edging to beds of low growing shrubs, or for the front row of the herbaceous border. This Daphne thrives best in peaty soil with plenty of sand mixed with it, and should be kept moist in the summer. It flowers in April and again in the autumn. The easiest way to propagate is by layers.

D. Blagayana is a newer and very charming plant, which was introduced into this country in 1872. It is rather a slow grower, which may perhaps account for its being somewhat rare. The habit is a low growing semi-prostrate evergreen shrub, usually under a foot high, with dark green, narrow, obovate leaves 1 to 2 inches long. The creamy white flowers are crowded in a terminal cluster, and are very fragrant. Its prostrate habit makes it a suitable plant for the rockery, but it will grow in an ordinary border if given proper conditions. We find it does well in a mixture of peat and sand, with a little of the ordinary garden soil mixed with it. The roots should be kept uniformly cool and moist; a few pieces of flat stones laid round the plant will greatly assist in this direction. The branches, too, seem to like to ramble amongst the stones. It can be propagated by layering; the shoots should be pegged down in the spring and separated when well rooted.—J. S. UPEN, Wigganthurpe.



RECENT WEATHER IN LONDON.—A suspicion of autumn is now with us, and is shown in cold nights and raw foggy mornings. Autumn tints are now becoming singularly beautiful. Occasional frosts have come, but have not yet been very severe. No rain has fallen in the Metropolis during the past few days.

CRYSTAL PALACE FRUIT SHOW.—This year being the first in which I have been able to visit the Crystal Palace Fruit Show, I was immensely pleased with the grand display there, and proud to point out to a foreign friend who accompanied me, the excellence of the produce of England. It struck me, however, that it would be a marked improvement, and one not difficult to carry out, if the tables at the sides on which the classes of small exhibits were placed were covered with white paper or cloths, as that would show up the plates of fruit more effectually than the present somewhat inartistic ground of scratched and not overclean grey paint.—C. S. H.

GRAPES AT SHREWSBURY.—In reference to the great Grape class at Shrewsbury, I have much pleasure in replying to the remarks of Mr. Crump, page 267. Taking his last paragraph first, I cannot now adhere to the statement, "nor were they admissible according to the schedule." I also would have acted in exactly the same manner as Mr. Crump and his colleagues did in the matter of disqualification. The course they adopted gave general satisfaction. No doubt the compiler of the clause referred to intended to insert the familiar words "Muscat of Alexandria." I am convinced that Judges are standing on safe ground when they carry out the schedule as there stated, although many times they come across errors in wording. A disqualification in the present instance could only mean a rightful protest on the part of the exhibitor so treated. However, this friendly controversy will have done much good, as no doubt the Shrewsbury Committee will remodel the clause, and insert the "missing link."—E. MOLYNEUX.

DEATH OF DR. ALEXANDER WALLACE.—We learn from the "Times" that Dr. Alexander Wallace, M.A. Oxon., M.D., and M.R.C.P., who had distinguished himself in the study of botany and entomology, died on Sunday, Oct. 1st, at his residence in St. John's Terrace, Colchester, aged seventy. He received his professional training at St. Bartholomew's Hospital and at Oxford, when he took the M.B. and A.M. degree in 1858, having been elected a member of the Royal College of Physicians, London, the preceding year, and in 1861 proceeded to the M.D. degree. He was for a time physician to the Metropolitan Free Hospital and the St. Pancras and Northern Dispensary, and he was a member of the Entomological Society of London, acting physician to the Essex and Colchester Hospital, and a member of some of the learned societies. In addition to many contributions on professional subjects to the St. Bartholomew Hospital Reports and to the professional journals, Dr. Wallace was author of "Notes on Lilies and their Culture," which has passed through two editions; "Ailanthiculture, or the Prospect of a New English Industry," and of "On the Oak-feeding Silkworm from Japan," prize essays of the Entomological Society of London in 1865-6.

BIRMINGHAM GARDENERS' ASSOCIATION.—The initial meeting of the autumn session was recently held at the Athletic Institute with a goodly attendance of the members, in the expectation of listening to a lecture on the Rose by the Rev. J. A. Williams of Bedford, but were doomed to disappointment, owing to his inability to attend. The gap, however, was admirably filled by the exhibition of other plants, such as *Dahlia*, *Michaelmas Daisies*, and tender and hardy cut flowers by Mr. W. B. Latham (the Chairman) from the Botanical Gardens, Edgbaston, including also a variety of hardy poisonous-berried examples. Interesting, also, was a spadix of the *Gunnera scabra*, its singular elongated spiked inflorescence being laden with almost innumerable small coral-like fruits, somewhat resembling those of the *Nertera depressa*, brought by Mr. C. R. Bull, gardener to Walter Chamberlain, Esq., Harborne Hall, Harborne. Messrs. John Pope & Sons exhibited a fine stand of the leading Cactus *Dahlia*s, for which a certificate of merit was unanimously accorded. Prizes were offered by Mr. W. B. Child, F.R.H.S., Acorns Green, for collections of *Michaelmas Daisies*, and Mr. W. Hiron of Moseley was awarded the first prize for twelve varieties in bunches, being the only exhibit staged.

GARDENING APPOINTMENTS.—Mr. Peter Harper, late head gardener to Lady McAndrew, Airthorpe, Inverness, and previously at Westerlie, St. Andrews, has been appointed to a similar position to Malcolm Inglis, Esq., Montrose, Donnybrook, co. Dublin, as the successor of Mr. Robert Milne, who takes charge of the gardens of Sir John Dillon, Bart., Lismullen, Navar, co. Meath.

HEAVY VEGETABLE MARROWS.—A correspondent, on page 291, October 5th, asks for information respecting the weight of the heaviest Vegetable Marrow. I enclose the following extract from the *Journal of Horticulture*, October 14th, 1897:—"Three large well-ripened Marrows were last week cut from one plant, weighing respectively 41 lbs., 28 lbs., and 16 lbs., or an aggregate weight of 85 lbs., besides several younger and edible fruits being supported from the same source. The variety was Long Green, and grown by Mr. Geo. Maxey, gardener at The Toft, Sharnbrook, Beds."—NIL DESPERANDUM.

SOPHORA JAPONICA.—This is a noble hardy flowering tree that blooms profusely in large clusters of small white flowers in September. I saw a very old and huge stemmed tree of it recently at Highclere Castle, where, amidst other fine trees, and rising from out of dense *Rhododendrons*, it was a very conspicuous object. Then so recently as the 19th ult. I was taken to see a noble place, one of the finest of its kind in South Hants, though now in a semi-ruinous condition, North Stoneham House and park, and there on the edge of the lawn fronting the mansion was another splendid tree, literally a mass of bloom. When flowering trees are planted, and we see them far too thinly employed, this beautiful *Sophora* should be employed, as it blooms so late, and is, therefore, specially attractive.—A. KINGSTON.

HESSLE GARDENERS' SOCIETY.—A meeting of the above Society was held on October 3rd, Mr. Mason of Hesse presiding over a good attendance of members. Mr. Donoghue of Tranby Croft Gardens read a paper on winter-flowering plants, *Begonia Gloire de Lorraine*, *Bouvardia*, and *Euphorbia jasquiniflora*. The paper proved most interesting and instructive. The essayist, after referring to the decorative merits of the plants, spoke highly of the *Begonia*, and gave details of culture under which it has been grown so successfully at Tranby. After dealing with the culture of *Bouvardia* and *Euphorbia*, a few remarks were added on potting and watering. Where good plant culture is desired, said the essayist, "it is essential that not even the smallest detail of culture should be neglected, or good results cannot be expected. A discussion followed, after which cordial votes of thanks were accorded the essayist and chairman."—J. F. D., Yorks.

CUCUMBER ROYAL OSBORNE.—When recently visiting the Royal Gardens at Osborne, Mr. Geo. Nobbs, the head gardener, called my attention to a splendid crop of his new seedling Cucumber Royal Osborne, which was sent out this season by Messrs. J. Carter & Co. of High Holborn. It was a sight worth travelling miles to see. The plants occupied a span house 40 feet by 15 feet, planted on shallow ridges of soil, and were carrying a wonderful crop of handsome fruits in all stages. There were about 120 fine specimens for seed, and what surprised me was that notwithstanding the large fruits containing seed, there were dozens quite up to exhibition quality, and the plants were furnished with large deep green foliage throughout. This variety appears to have a good constitution, and sets its fruit with remarkable freedom. The largest fruits averaged 22 inches without any neck, and were well proportioned, of a deep olive green, and of the finest flavour. Having grown this variety myself this season, I am well satisfied that wherever tried it will give satisfaction as a good all-round Cucumber, and will prove itself worthy of the name it bears.—J. B.

CISSUS DISCOLOR.—This is a useful and beautiful old climbing plant, very effective in certain positions. In the leading group of plants at Shrewsbury it was used with good effect in the centre font-like arrangement, and it is also very much used for table and house decoration. To grow it well *C. discolor* likes a fairly light position in a warm moist house, not too much root room, and feeding with chemical manure after the compost is full of roots rather than making the compost rich at the time the plant is potted. *C. discolor* is too well known to need describing, and as far as the colours of the leaves are concerned, this would be rather a difficult matter. In large old houses the branches cut and drooping about in various floral arrangements are excellent, while the young fresh points are very fine for filling vases or laying on the cloth. There are many ways of propagating it, one of the best being to take off young points when the plant is beginning to grow in spring, or in winter the older—sometimes leafless—shoots may be readily rooted over bottom heat, potted singly, and planted in their permanent position when well rooted.—C. H.

— *COBCEA SCANDENS VARIEGATA*.—For quickly covering a large space with pretty foliage there are few better greenhouse climbers than this. It is true the flowers are not of a colour to show up particularly well by the variegated foliage, but this in itself makes the plants worthy a place. I have seen it covering scores of square yards of space, though growing only in quite a small box, and this is one of its chief advantages. The flowers are like those of a light form of the old *Cobcea scandens*.—C.

— *DEATH BY SUFFOCATION*.—Trees, and, indeed, all terrestrial vegetation, will live for months in winter when the roots and stems are wholly under water, but are killed in a few days if a sudden overflow keeps the roots under water in the growing season. The roots, needing air at that season, are suffocated. The practical cultivator, of an observant turn of mind, makes admirable use of this knowledge in many gardening operations. Plants desired in low situations, where they would not under usual conditions survive, should not be set deeply.—"Meehan's Monthly."

— *SINGLE PETUNIAS FOR BEDDING*.—It seems like harping on an old and worn-out theme to refer to the Petunia as a bedding plant, but in spite of this, I am not sure whether its merits are fully appreciated. A mass of flowers is often what is wanted on beds in conspicuous places, but without any stiffness or formality. It is here that Petunias come to the rescue, and it is surprising what a prolonged display can be had from a packet of seeds. Early this summer I planted a bed with tiny seedlings, that did not appear to have strength enough to grow under the tropical sunshine; but a friendly shower gave them a start, and since coming into bloom they have been a perfect picture, and now, at the end of September, the Petunia bed is the brightest spot in the garden.—G. H.

— *THINNING PEACHES*.—A New Jersey Peach grower at the recent State Horticultural Convention argued strongly in favour of thinning Peaches to 4 to 6 inches apart on the trees. He thought the work was best done by hand, discriminating somewhat in the choice of those left on the tree, but when help was scarce he had seen good work done by using a long pole to knock off the superfluous fruit. He claimed that if too many Peaches were left on the tree the fruit was undersized and insipid in flavour, or the tree became exhausted by overbearing and soon died. We think we have seen both results follow the same crop. But, says a transatlantic journal, the most convincing part of his argument was in the figures of fruit required to fill four baskets weighing 100 lbs. If they were $2\frac{1}{2}$ inches in diameter, it took 300 Peaches; $2\frac{1}{4}$ inches, 500 Peaches; 2 inches, 720 Peaches. The large Peaches would sell readily at a good price, and the small ones scarcely pay travelling expenses, while if mixed the price was little better than for small ones.

— *DEVON GARDENERS' ASSOCIATION*.—The Mayor of Exeter presided at the annual meeting of the Devon and Exeter Gardeners' Association. The annual report stated that at the commencement of this, the ninth winter session of the work of the Association, the Committee was in the gratifying position of looking back upon the past year with satisfaction, and looking forward hopefully to the coming season, for which an admirable syllabus of work has been arranged. The Association appeared to have settled down to a course of useful, plodding, and unpretentious work, with the original aims steadily in view. The Committee was pleased to be able to report that, on the whole, the Association was in a healthy and flourishing condition, and appeared to have a good future before it. The financial statement for the past year showed a balance in hand of £16 11s. 9d. The Mayor moved the adoption of the report and financial statement, and regretted the absence of the venerable President, Mr. Sanders, because he always made a most excellent Chairman, and because they had in him one of their leading residents, whose character commanded the respect and admiration of them all. The speaker then referred to the report, which he characterised as a very gratifying one. It seemed to look back upon the good work done with satisfaction, and to look forward with a great deal of hope to the future. That was an enviable state of mind for any person or society to arrive at. He said the papers were most practical and instructive. Another equally good list had been arranged for the coming season. Referring to the management of the Society, the Mayor said they had two most excellent officers in their Hon. Secretary and Treasurer, and so long as they could command the services of such men as Mr. Hope and Mr. Mackay at the helm, and the patronage of men like Mr. Sanders, their esteemed President, he could not think the interest in the Society would in any degree diminish, but would maintain the prestige already earned and recognised as one of the useful institutions of the City of Exeter. On the motion of the Mayor, seconded by Mr. P. C. M. Veitch, the reports were adopted.

— *AGAPANTHUS UMBELLATUS*.—It is questionable whether we have many more useful plants than the blue African Lily, as it can be put to a variety of uses. The plant is easy to grow, accommodating in habit, and its graceful spikes of flowers are always admired. For the embellishment of conservatories in the summer large plants of *Agapanthus umbellatus* in pots or tubs are extremely useful, and the same may be said of them when grown in this way for standing on terrace walls and other conspicuous sites. On several occasions I have seen them in the south of England planted out on sloping banks, but it is only in favoured localities where they can be subjected to this method of growth. There is a white form of *Agapanthus* which is very charming, but the flowers are smaller than the better known type.—W.

— *FRUITS OF THE PHILIPPINES*.—Fruits grow in great abundance, and the reputation of some of them is established even abroad. This is true of the Mango, which is the best representative of its class. Other fruits of the island are the Ate (the Cinnamon Apple of the French colonies), the Mangosteen (found only in the Salu Islands and the southern part of Mindanao), the Pine Apple, the Tamarind, the Orange, the Lemon, the Jack, the Jujube, the Litchi (the king of fruits according to the Chinese), the Plum, the Chicomamey (the Sapodilla of the West Indies), the Breadfruit, and the Papaw. The Papaw is eaten like a Melon, and is said to act as an efficacious digestive. The juice of this fruit furnishes an extract that is used as a medicament under the name of papaine or vegetable pepsin. The Banana grows abundantly in the Philippines. This fruit is a great boon to the poor people, supplying them at little cost with a delicious and exceedingly nutritious article of food.—("American Grocer.")

— *ASTER SINENSIS*.—This annual, whatever its origin, deserves to be much more widely known than it is. As a September flowering plant it is one of the best in the garden. For cutting, too, it is a real gem, as the blooms last fully a fortnight in water in a cool room, and it is one of those plants that look so well under artificial light. The mauve colour is most pleasing, enhanced also by the bright yellow disc. The blooms from strong plants are fully 4 inches in diameter, and have only a single row of florets. In height it grows 18 inches, and as much as 2 feet in diameter. Its spreading habit of growth is all in favour of displaying its blossoms, of which as many as fifty are produced on one plant. Sown on a spent hotbed early in March, or in a cold frame in February, the plants are early pricked out and grown in good soil, so that they branch out freely from the base, afterwards they are easily raised and grown. For the front of a Rose, herbaceous, or shrubby border it would be difficult to find a plant to equal it at this season of the year.—E. M.

— *LIQUID MANURE*.—The liberal use of liquid manure is well known to be an invaluable aid in the growing of vegetables. The drainage from stables and dwellings is among the best and most stimulating liquids for plants, and yet it is seldom that an effort is made to utilise it. Being always ready for use it is one of the most economical in its application. Many spend time in steeping and mixing solids of one kind or another, when with the aid of a pump in the sewer tank or barrel sunk in the ground in some convenient place near the stables, a constant supply of these powerful liquids can always be had. Even where there is only one horse or a cow kept it will pay to catch the drainage of the stable. All unsightliness may be destroyed by hinging a lid on to a frame of wood over the barrel and giving it a coat of paint. A little judgment will be necessary in its use, care must be taken not to use it too strong; it is better to dilute it well with water until we learn by experience its effects.—J. HOBSON (in "American Gardening").

— *GRAPE GROS COLMAN*.—If those who are so fond of running down this fine Grape would only give it time enough to ripen properly they would find it a far different flavour from what they are used to when starting the vine in which it is grown in March and cutting the fruit in September. As a matter of fact *Gros Colman* requires as long a season as *Black Alicante*, and this needs more time than is usually allowed it. I am now cutting *Gros Colman* from an early house where it has been grown in company with *Black Hamburg* and *Lady Downe's*, but were I able, I should plant *Gros Colman* in a house by itself, where it could be "grown" all the time, not hampered by any other variety. The large berries want time, and just as *Black Hamburg*, *Gros Maroc*, and other black varieties are finishing, *Gros Colman* requires growing without a doubt. The Vines should be liberally fed, and a house started at the new year should be allowed to hang until the end of September, later houses being allowed almost as long. To expect to ripen *Gros Colman* in six months from the date of starting is wrong, and leads to shanking, foxy berries, and other evils.—S.

— **THE ASH AS A STREET TREE.**—Maples and Poplars have become the staple street trees in many towns and cities. Their chief recommendation is that they grow fast, and can be raised and sold for low figures. But they soon become larger than the owner wants them. One can learn useful things from trees in public places. In Philadelphia, says Mr. Meehan, the Ash seems to be able to hold its own against all enemies. The true white Ash is the best—the red and black do very well. The white is known by the very dark upper surface of the leaf.

— **PEACH PRINCESS OF WALES.**—Few have said more disparaging things than myself of this Peach; but I must say that this year it is far better than I ever had it before. It is not up to Grosse Mignonne form of course, but it is really very good for a late variety, and beyond a slight woolliness in over-ripe fruits it is at least as good as Sea Eagle and other late sorts. Like many other large-fruited varieties, Princess of Wales must not be overcropped. If it is, there will be a loss of quality as well as size, and the tough tasteless flesh will be in evidence. A warm sunny place in an unheated house is where Princess of Wales shows at its best.—H. RICHARDS.

— **BEEF SEED SOWING.**—When recently at Clandon Park, Guildford, I remarked one of the finest pieces of Beef—Sutton's Blood Red—that I had seen anywhere this season. I mentioned to Mr. Blake that he had been very successful in securing good germination. He replied that it was his practice, as the ground was usually dry when sowing Beef, to soak the seed for some fifteen hours in water, and in weak liquid manure for preference, then after sowing mixing some very dry soil or sand with the seeds first, to cover them, and run a broad-wheeled barrow, having in it two or three bricks, along over the drills. The result was invariably good growth, because the soil was well settled about the seeds.—TRAVELLER.

— **NEW JERSEY APPLE CROP.**—This promises to be a good one in the aggregate, although reports to the "American Agriculturist" show in a few counties there is an indifferent yield. Mr. H. L. Budd of Burlington Co., who is well acquainted throughout the State, reports the condition high, particularly Ben Davis and Russet; as for summer varieties he says the crop is proving more than an average one, market Apples worth about 1 dol. 25 c. p bbl; cider stock 50 c. The crop was damaged in Sussex Co. from June drought. Another correspondent in Burlington Co. reports an exceedingly heavy crop of summer fruit. Warren Co. will have only a moderate crop, and perhaps half a crop of summer varieties.

— **FRUIT INDUSTRY.**—An important business is now being developed with fruit pulps, which are being imported into this country by ton lots, packed in barrels and tins. The shippers are, in fact, so satisfied with recent sales that arrangements are being made to cope with a largely increased output next year. The pulps are not only sent from France, Italy, and Spain, but the colonial merchants have now entered the field, and as an instance of how the business has grown in Australia, it may be mentioned that, whereas three years ago 30 tons were sent from Victoria, last year the quantity had grown to 300 tons, and this season no one can gauge the total that may be reached. There can be no doubt that in time the colonial fruit pulps will knock their foreign competitors out of the market. The colonial pulps are much superior in quality, and the jams made from them possess a fine flavour, unobtainable from the foreign products. When home growers realise that there is money to be made in the business they may possibly follow the example of their colonial competitors.—("Daily Mail.")

— **CARDIFF GARDENERS' ASSOCIATION.**—The session of 1899-90 of the Cardiff Gardeners' Association was opened on Tuesday evening, October 3rd. There was a large and representative attendance, and the Society promises this winter to enter upon a very successful session. As many as thirteen papers dealing with the various branches of horticulture will be read to the Society by gentlemen who are experts in their respective subjects, and in many cases the lectures will be illustrated by lantern slides. In the absence of Councillor Brain the chair was occupied by Mr. James J. Graham (Chairman of the Association) and subsequently by Councillor J. M. Gerhold. Mr. Gerhold welcomed the members, and called upon Mr. Graham to make a presentation to Mr. John Julian, the Hon. Secretary of the Association, of a beautiful silver mounted Malacca cane walking stick with a suitable inscription. In so doing Mr. Graham spoke in eulogistic terms of Mr. Julian's services to the Society. Mr. Gillet (Secretary of the Cardiff Horticultural Society) on behalf of the Gardeners' Association, then read and presented to Mr. Julian an illuminated address. Mr. Julian returned thanks for the presentation. Subsequently Mr. Thomas Coomber, F.R.H.S., gardener to Lord Llangatock, read an interesting paper on the root-pruning of fruit trees.

— **ORIGANUM HYBRIDUM.**—One of the most elegant and prettiest plants that the Messrs. Cypher have for several years past introduced into their "groups of plants arranged for effect" at flower shows is one of the Marjorams, and which variety, if I am not mistaken, is *O. hybridum*, also known as *pulchellum* and *Tourneforti*, or the *Dittany of Amorgos*. I have frequently heard at flower shows where the plant has been exhibited, visitors, also florists and gardeners, inquire as to its name. Especially was this the case at the recent Wolverhampton and Shrewsbury Shows, where others utilised it for the purpose indicated, and who also when first used by them were ignorant of its real name. It has also been called the *Japanese Hop*, owing to the similarity of its bracted inflorescence to that of the common Hop.—W. G.

— **NATIONAL AMATEUR GARDENERS' ASSOCIATION (LIVERPOOL BRANCH).**—The usual monthly meeting of the above branch was held last Thursday evening, the attendance of members being an excellent one. As is usual at this time of the year, the prize list was largely composed of classes for Apples, and very good they were, Mr. Tinsley taking first honours in culinary varieties with Warner's King in capital condition, and Mr. Dobson came second with same variety. The prizes in smaller classes fell to Messrs. Robins and Cangle. The dessert classes were only moderate in quality, Mr. W. Muir, Mr. Dobson, and Mr. Drake winning. Plants and cut flowers were nicely staged, Mrs. McGregor took the table plant class, and Mr. Dale for cut blooms of Chrysanthemums. A most interesting paper on "Early Chrysanthemums," and for which he was warmly welcomed, was read by Mr. D. W. Cangle.—R. P. R.

— **WHERE RUBBER GROWS.**—Her Majesty's Consul in Guatemala, in his annual report, tells of the Rubber tree which grows wild in large quantities in Guatemala and throughout Central America. The Rubber which this tree produces is said to be of the best known quality for industrial purposes. The tree is tall, with smooth greenish white bark, and the fruit consists of nuts contained in a pod. The milk of the tree is contained principally in the fibres between it and the bark. Great caution must be observed in the making of incisions in the bark to obtain the milk. The milk contains about 60 per cent. of water and other substances, while the remaining 40 per cent. represents the saleable product, of which again about 33 per cent. is said to be rubber of superior quality. Until the last few years rubber brought to market was obtained in a great degree from wild trees found in America and Africa, but the enormously increased demand and the unsystematic destruction of the trees has now driven the price of superior rubber up to a high figure.

— **SEPTEMBER WEATHER AT BELVOIR CASTLE.**—The wind was in a westerly direction twenty-two days. The total rainfall was 2.68 inches. This fell on nineteen days, and is 0.31 inch above the average for the month; the greatest daily fall was 0.77 inch on the 29th. Barometer (corrected and reduced): highest reading, 30.207 inches on the 10th at 9 P.M.; lowest reading, 29.244 inches on the 30th at 9 A.M. Thermometers: highest in the shade, 82° on the 5th; lowest, 32° on the 29th. Mean of daily maxima, 63.06°; mean of daily minima, 47.00°. Mean temperature of the month, 55.03. Lowest on the grass, 28° on the 29th; highest in the sun, 129° on the 2nd. Mean temperature of the earth at 3 feet, 58.53°. Total sunshine, 151 hours 45 minutes. There were three sunless days.—W. H. DIVERS.

— **METEOROLOGICAL OBSERVATIONS AT CHISWICK.**—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1899.		At 9 A.M.		Day. Night			At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
October.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday .. 1	E.S.E.	deg. 51.9	deg. 50.0	deg. 53.2	deg. 42.5	ins. 0.17	deg. 52.1	deg. 55.8	deg. 57.8	deg. 32.4
Monday .. 2	W.S.W.	51.8	50.7	52.7	50.8	—	53.2	55.6	57.5	42.1
Tuesday .. 3	W.S.W.	52.9	49.1	51.6	57.4	0.05	51.2	55.3	57.2	27.1
Wednesday 4	N.N.E.	51.2	50.6	51.9	50.9	0.15	54.1	55.1	56.9	50.4
Thursday .. 5	E.N.E.	51.1	47.0	52.6	47.5	—	53.5	55.3	56.9	47.5
Friday .. 6	E.N.E.	53.6	45.4	53.3	37.6	—	51.8	55.1	56.9	27.5
Saturday .. 7	S.S.E.	45.6	44.0	50.1	34.9	—	50.2	54.6	56.7	26.2
MEANS ..		51.2	48.1	55.9	43.1	Total 0.37	52.3	55.3	57.1	38.2

Dull, cold, misty weather, with frequent showers and frost on the grass on several mornings.



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries:—

- Oct. 31, Nov. 1.—**TAUNTON**.—John S. Winsor, 16, Hammet-st., Taunton.
 Oct. 31, Nov. 1, 2.—**WOLVERHAMPTON**.—J. H. Wheeler, Glen Bank, Tettenhall, Wolverhampton.
 Nov. 7, 8, 9.—**BIRMINGHAM**.—J. Hughes, 140, High-st., Harborne, Birmingham; F. W. Simpson, Victoria-rd., Birmingham.
 „ 8, 9.—**BRISTOL**.—Geo. Webley, Westbury-on-Trym, Bristol.
 „ 10, 11.—**ALTRINCHAM**.—C. C. Marns, 22, Railway-st., Altrincham.
 „ 10, 11.—**HUDDERSFIELD**.—John Bell, Marsh, Huddersfield.
 „ 14, 15.—**LEEDS PAXTON**.—James Campbell, The Gardens, Methley Park, Leeds.
 „ 15, 16.—**RUGBY**.—Wm. Bryant, 8, Barkby-rd., Rugby.
 „ 15, 16, 17.—**YORK**.—Geo. F. W. Oman, 38, Petergate, York.
 „ 17, 18.—**BOLTON**.—James Hicks, Markland-hill-lane, Heaton, Bolton.
 „ 17, 18.—**BRADFORD**.—R. Eichel, Westcliffe-rd., Shipley.

SCHEDULES OF SHOWS.

With the advent of October, and in a lesser degree before then, come schedules of Chrysanthemum shows that are fixed for the ensuing season, and we propose to note from time to time one or two of the salient features of the more important fixtures. It will be recognised by many readers that, to some extent, every schedule is alike; but generally speaking, a society endeavours to carve out and maintain a groove of its own, for which it is characterised amongst the great army of exhibitors. Notwithstanding the correspondence on the subject in these pages, and the rules for judging and framing schedules, as laid down by the Royal Horticultural Society, debatable points may still be found here and there, and we can only hope that any differences that may arise from them will be amicably settled. In referring to the several shows, we shall give in each instance the date on which the entries close. We take those now before us alphabetically.

CARDIFF.—NOVEMBER 8TH AND 9TH.

In the neighbourhood of this flourishing town the number of Chrysanthemum growers is legion, and in the ranks are to be found some of the most expert "mummers" of the day. Bearing this in mind, it can be no matter for surprise that the Cardiff and District Chrysanthemum Society is able to bring together an excellent yearly display, for the maintenance of which it furnishes a capital schedule. There are six dozen classes, some of which are for hardy fruit, Primulas, and miscellaneous plants, but the majority are devoted to the autumn queen. The greatest interest will probably be centred in the class for twenty-four Japanese, distinct, in which the premier award is £5 in cash, and a 5-guinea cup subscribed for by the tradesmen of Cardiff. The second and third prizes are 60s. and 30s. respectively. For a similar number of incurved, £5, £2 10s., and £1 5s. are offered as the three awards. The sum of £7 10s. is allotted for a 60-foot group of Chrysanthemums, each of these classes being open. For a 50-foot group, open to amateurs and gardeners, we find £6 in three awards, and £4 15s. for twenty-four Japanese in not less than eighteen varieties. The Secretary, from whom schedules and full particulars can be had, is Mr. Harry Gillett, 66, Woodville Road, Cardiff, who will receive entries up to the Saturday prior to the date of the show, which will be November 4th.

CROYDON.—NOVEMBER 7TH AND 8TH.

Among exhibitions held in the neighbourhood of London, Croydon has long held a position of prominence. This was attained to by the exceptional excellence of its cut bloom section, which is invariably participated in by several of the most prominent growers. The well known and energetic Secretary is Mr. W. B. Beckett, 272, Portland Road, South Norwood, to whom all entries must be forwarded not later than November 1st, as the closure is called on the following day. The great attraction is the Borough of Croydon champion challenge cup class, which is for thirty-six Japanese in not less than twenty-four distinct varieties, nor more than two blooms of any one variety. This splendid trophy, of which the value is 25 guineas, becomes the absolute property of the exhibitor who wins it three years out of five. Mr. Frank Lloyd's clever gardener, Mr. M. Mills, has won it twice in succession, and his many friends will heartily wish him success this

year. Money prizes of £4, £3, and £2 are also offered. Amongst the five dozen other classes in the several divisions, there are those that will meet the requirements of every grower, and it may be reasonably expected that the exhibition of 1899 will be equal, if not superior, to its several predecessors.

ECCLES.—NOVEMBER 10TH AND 11TH.

The Eccles, Patricroft, Pendleton, and District Chrysanthemum Society has a long title, and fortunately brings together shows that justify it. This season's exhibition will be held in the Town Hall, Eccles, on November 10th and 11th, and the entries will close on November 2nd. There are nearly four dozen classes in the schedule, some of which are open, while others are subject to certain limitations. For a group of Chrysanthemums, 9 feet by 6 feet, 10 guineas are allocated to be divided between three prizewinners. This class ought to bring forth some interesting and attractive exhibits. The sum of £10 is given for twenty-four cut blooms, twelve each of Japanese and incurved flowers, distinct. In addition to the premier prize of £5 is offered a silver challenge cup value eight guineas, which is offered by Mrs. Alderman James F. Wilkinson, and must be won three times before becoming any person's absolute property. In numerous other classes good prizes are offered, and should bring forth competition that will suffice to maintain the Society's reputation.

HULL.—NOVEMBER 15TH AND 16TH.

So far as the actual number of classes is concerned the Hull and East Riding Chrysanthemum Society does not loom large, as the schedule only embodies four dozen classes. Numbers, however, are not everything, as this ranks amongst the foremost exhibitions of the country, it being especially noted for the magnificence of its groups of Chrysanthemums and miscellaneous plants, which are probably unexcelled by any in the kingdom. The cut bloom section, however, is invariably excellent, as noted growers travel from all quarters to compete. For example, for twenty-four cut blooms £10, £8, and £4 are offered in three prizes, and are extremely generous, a similar amount being accredited to a class for twenty-four Japanese. For a group of Chrysanthemums the prizes are £10, £7, £5, and £4 respectively, and this is one of the most beautiful classes to be found anywhere. The highest degree of artistic excellence is attained to, and the competition is invariably extremely keen. Several cups and pieces of plate, as well as medals, are added to the premier awards in various classes. The Honorary Secretaries are Messrs. E. Harland and James Dixon, Manor Street, Hull, who will receive entries up to Wednesday, November 8th.

THE GREAT GRAPE CLASS AT SHREWSBURY.**PROPOSED NATIONAL CUP.**

THE conditions for the class for Grapes at our recent Show have apparently been read in different ways by Mr. Molyneux and Mr. Crump. It may, therefore, be interesting to know what the Committee intended to lay down in the conditions, for when two such eminent growers read the same terms in such a different manner there certainly is considerable doubt. What the Committee meant to convey was that Muscat of Alexandria could be shown, and in addition ONE of the four varieties named. During the spring several correspondents inquired as to the strict meaning of the clause, and to each a reply was sent in accordance with the Committee's intention. Whether the clause should be amended in any future Grape class is a matter for due consideration; but the Judges based their decision on the intention of the Committee.

A suggestion was made by Mr. Buchanan in the same number of your Journal as Mr. Crump's letter appeared, that a national cup should be provided and competed for in alternate years in England and Scotland. If the cup is to be of national importance it must of necessity be competed for in London and Edinburgh, under the management of the Royal Horticultural Society of England and the Royal Caledonian Horticultural Society at Edinburgh. Mr. Buchanan's suggestion that it should be competed for in England at Shrewsbury is, of course, a great compliment to our show, but it would be nothing short of presumption for Shrewsbury to put in a claim to be the chosen place in England for such a contest.—H. W. ADNITT.

[The missing link is supplied at last, and as all were satisfied at the show, let all now who are interested in the subject be happy. Mr. Adnitt's suggestion relative to the national Grape challenge cup question is commended to the attention of the Council of the Royal Horticultural Society. Such a competition, alternately, at the Royal Caledonian Society's Show at Edinburgh and the Royal Horticultural Society's great Fruit Show at the Crystal Palace, would add immensely to the interest of both exhibitions. The proposition of Mr. Buchanan was that "a sort of America cup" be provided, with liberal money prizes to go along with it, the money to be contributed equally by both Societies. He thought it would not be difficult even to raise £100 by private subscription, and felt sure that if such a friendly contest were brought about both Societies would be the gainers.]

NEPENTHES.

NOTWITHSTANDING the pleas that have time after time appeared in the pages of the *Journal of Horticulture* in favour of the wider cultivation of *Nepenthes* in private establishments, they are still not sufficiently seen. When we take into consideration their highly ornamental character at this period of the year, when flowering plants are scarce, and the comparative ease with which they can be grown, everyone will admit their undoubted value. Yet what do we find? Why, in many establishments they are conspicuous by their absence, while in others they are represented by about a dozen specimens which, in lacking pitchers, lose in merit. True, in a few gardens most excellent collections, representative of proper methods of management, as well as of the best kinds, are prized, and it is safe to say that when such is the case no plant provokes more interest at this period of the year. The pitchers have a beauty that is peculiarly their own, and which warrants their inclusion in "every" stove house in the country. They are not plants of a day, or even of a week, but they come to stay, in striking handsomeness, for week after week, provided they have necessary attention.

As indigenous to warmer climes than our own, *Nepenthes* are not plants that can be placed in a cold structure at will, or be employed for a lengthened period at exhibitions; but they can be usefully employed in this direction if discretion is used. For example, magnificent groups have been staged at the Drill Hall, Westminster, on more than one occasion, and when this is done there is a never failing concourse of spectators, whose remarks are always congratulatory in tone. Then in groups of plants arranged for effect, the artistic manipulator will utilise a few well-grown plants in such a manner as to materially strengthen his exhibit; while it is difficult to conceive what plants Mr. Lunt could have substituted for the *Nepenthes* in the champion Grape at Shrewsbury. On small wooden pedestals he had placed evenly pitched *Nepenthes*, and no one can dispute the fact that they did their share in setting off the splendidly grown Grapes. For dinner tables, again, we have seen them cleverly used, and always with telling effect where their companion plants have been judiciously chosen. But it is not necessary to multiply instances of their value in various directions, as these will readily occur to readers.

To make a thoroughly good display, and at the same time to reap the greatest possible value from the stock grown, it is not essential that the number of plants be large, as greater value lies perhaps in judicious selection. Not only must there be diversity of form and colour, as found in the several species, hybrids and varieties, but also various sizes of plants, from the baby with two or three pitchers to the adult whose clean green leaves with their handsome appendages practically obscure the receptacle in which the plant is growing. When this is done the grower has command of material for utilisation in any form he likes best, and

the greater the stock, of course, the better chance has he of making striking combinations. From this aspect then of the case alone the plants are worthy of careful attention and sound culture, as it is few places indeed where the gardener can provide too great a variety for various forms of decoration. No establishment containing a structure maintained at what is termed stove heat ought to lack a few *Nepenthes*, and with the greater amount of space in very large gardens the number should

increase, so that justice may be done to what is now a more or less neglected family of plants.

The foregoing remarks found their birth in the splendid group of *Nepenthes* that Messrs. J. Veitch and Sons arranged at the Drill Hall several weeks ago. Never has this eminent firm shown these plants to better advantage, both in the plainly perceptible excellent methods of cultivation that must have been adopted to produce pitchers of such striking excellence, and in the bold effectiveness of the arrangement. My interest in the plants was so great that the time was not long ere I found the way to the Royal Exotic Nursery at Chelsea, where under the guidance of Mr. G. Tivey my acquaintance with and admiration for *Nepenthes* increased materially. The lofty span-roofed structure, with its central and side stages, was a sea of hanging, swaying pitchers, some an inch in length, and others approaching to a foot, and with accommodation for upwards of a pint of liquid. Here was one almost green, there a crimson, and yonder a mottled or splashed, but all alike in the best of health and condition, and consequently a credit to the firm and the grower, whose long experience with *Nepenthes* makes him one of the foremost authorities on their culture and on the value of any new ones that may be brought forward.

It is of course only natural that the excellence of the display should be largely governed by the diversity of form, size and colour that is found in the collection grown. The culture of the handsome *Mastersoniana* in considerable numbers would result in a very interesting spectacle, but it would not equal the sight that would be the product of a similar number of plants comprising a dozen kinds. As with other plants, flowers and fruits the greater the variety the greater the interest and the higher the educational value. That everyone who grows *Nepenthes* has *Mastersoniana* goes without saying, for though it has been known and appreciated for many years it is still in vogue for general excellence. The newer mixta has only to be seen to be

admired for its noble appearance, which is equalled, and perhaps in the eyes of some observers excelled, by the form named *sanguinea*, from its deeper colouration. They form a trio of the best quality. Differing in the formation of the pitchers is *Hookeriana*, which is stout and squat, where the others are thinner and considerably longer. It is one of the best for keeping, as the pitchers remain sound over many months. Then there are *Northiana*, *Chelsoni*, *Rafflesiana* (very large), *Amesiana*, and *Dicksoniana*, all of which are worthy of inclusion.

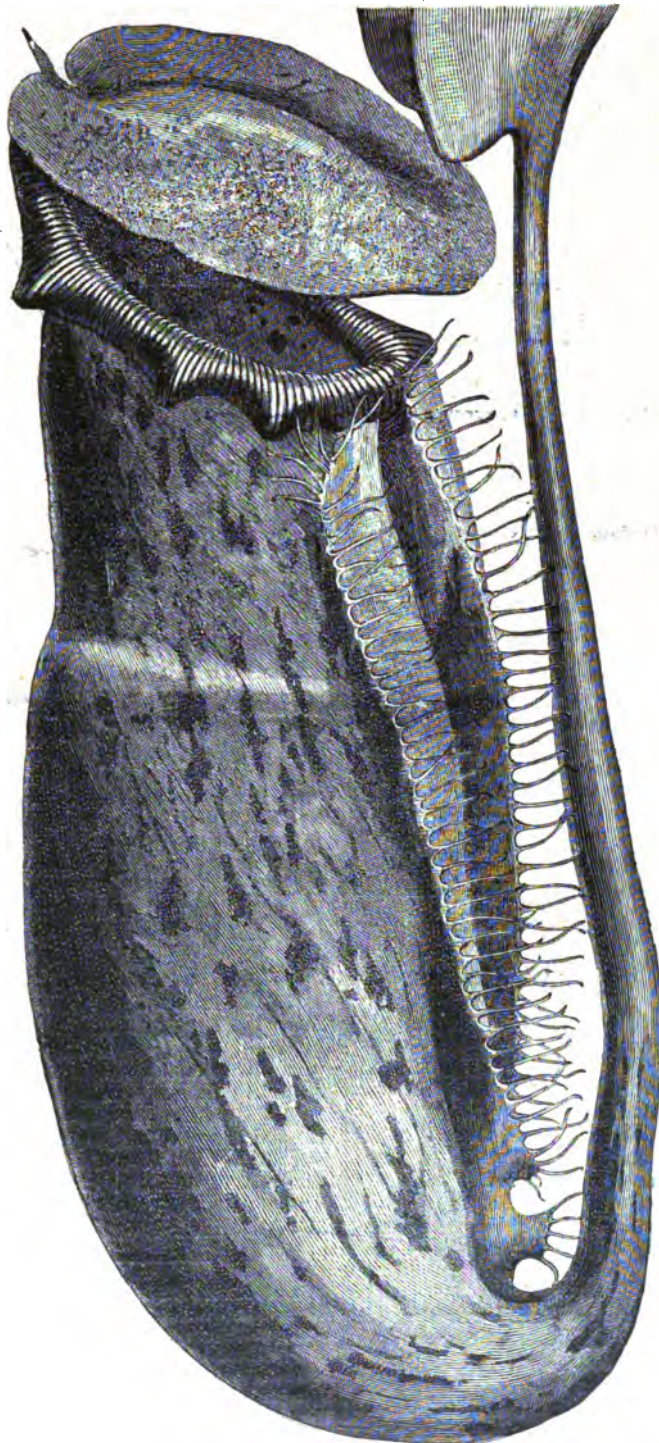


FIG. 63.—NEPENTHES BALFOURIANA.

Distinct from either of those previously noted are Burkei and Burki exoellens with Curtisi superba, each in its way singularly handsome in appearance. Coming to more modern ones we have Tiveyi, and last but not least Balfouriana (fig. 63) which is magnificent in every respect. It was exhibited at the meeting of the Royal Horticultural Society, held on August 16th, by Messrs. Veitch, and is from a cross between N. Mastersiana and N. mixta, which favours both parents. The illustration represents an average pitcher. The ground colour is claret towards the lid, and light green at the base, with numerous dark crimson splashes. The pitchers are very handsome, and incline towards N. Mastersiana, especially in size.—G. H. F.

HARDY FRUITS AT HESSLEWOOD.

READERS of the *Journal of Horticulture* will have studied with interest the problems which Mr. G. Picker, who has charge of these gardens, has from time to time placed before us. Bearing these articles in mind, it is perhaps superfluous on my part to say at the outset that he is an enthusiastic hardy fruit grower, though he by no means neglects the whole garden for his hobby. I do not propose to describe the gardens at Hesselwood, as I went with the intention of seeing the Apples particularly, and have a chat on the crops. I shall therefore confine myself entirely to that, the most useful of our British hardy fruits.

Having reached Hesselwood, I was not long in finding the genial Mr. Picker, and with equal promptitude ascertained that the equinoctial gale which was blowing had upset his equilibrium, by tearing a great many of his best fruits from their legitimate places on the trees. But after a hearty hand-shake, and a few minutes' conversation, we dived into the depths of Apple lore. I was astounded to see such crops of Cox's Orange Pippin. The fruits were much above the average size, and the colours were simply marvellous. Stirling Castle was perfection personified. The trees were carrying extremely heavy crops, and were making a nice growth. This and Lane's Prince Albert Mr. Picker couples as the most useful of culinary Apples. The latter was in grand form, both as regards crops and weighty fruits; many of the trees had only been planted three years. Ecklinville Seedling, Lord Suffield, Lord Grosvenor, Keswick Codlin, and the very early sorts, had been gathered, but I was informed that they had carried heavy crops of fine fruit. For exhibition Warner's King and Peargood's Nonesuch are renowned, and they were here of monstrous size, and will prove hard to beat if the exhibition arena is entered this autumn.

Mère de Ménage was carrying extremely heavy crops of beautifully coloured fruits, the trees being perfect pictures; one fruit which the gale had torn from the tree, not the largest by any means, turned the scale at 18 ozs. Lord Derby, with its heavy crops of handsome fruits, is best described as an ideal dumpling Apple. Tower of Glamis, with which the gale had played great havoc, still retained sufficient for an average crop. Margil is a great favourite, and the trees were burdened with heavy crops of Apples, beautiful both as regards size and colour. Ribston Pippin, I was informed, had produced exceptionally heavy crops for the last six or seven years, and again was no exception to the rule—indeed, the exception is to find a tree without a heavy crop. The fruits of Cox's Pomona, on trees which had been planted three or four years, were remarkable for their great size and colour, while Newton Wonder more than maintains its reputation. Brownlee's Russet, which is so useful in February and March, was splendidly represented, as was the cook's favourite, Dunelov's Seedling. This, I learnt, was carrying larger and finer fruits of a much better colour than it has ever produced at Hesselwood previously. Potts' Seedling was heavily burdened with useful Apples, while Improved Cockpit, which must be used as soon as ready, bore an excellent crop.

Golden Winter Pearmain is one of Mr. Picker's favourites, which means that it is a sure cropper of valuable fruit. Eve or Trumpington is worthy of a place in any collection, for its colour was magnificent. Reinette du Canada likewise was carrying heavy crops. Alfriston, contrary to past experience, was practically barren, while Schoolmaster was just the reverse. That handsome Apple, Gascoyne's Scarlet, was carrying bright-coloured and large-sized Apples, and was an object lesson to East Riding Apple growers. Bismarck must never be neglected; it was carrying fine crops of medium-sized beautiful Apples. Maltster is another exception to the rule of general excellence, it having thrown its fruit owing to the drought. Small's Admirable was carrying fruit above the average size, and crops in the way of Lane's Prince Albert. Golden Spire deserves extended culture, and was bearing heavy crops of typical fruit above the average size. Cellini has thrown its fruits owing to the great drought, but it usually bears a crop. Cornish Aromatic was in splendid form.

Then I got a surprise and an eye-opener, for I found that Mr. Picker had removed all the Peaches, Apricots, and other fruits, and the

whole south wall of the garden was planted with cordon Apple trees. Here was the new Allington Pippin carrying crops of handsome fruits, and should its flavour come up to expectations it will be a strong rival to Cox's Orange Pippin, which is planted by its side, and was cropping equally as well as on the bush trees in the open gardens. Margil as a cordon, likewise Ribston, was magnificent. Warner's King is not satisfactory as a cordon, as the fruits are not as fine as those on bushes. Baumann's Red Winter Reinette was beautiful, bearing heavy crops of brightly coloured fruits. Why should we not plant more of this class of Apple, which combines beauty with usefulness?

There were other varieties under cultivation and trial, but I think I have mentioned enough to give readers an idea of the crops of Apples which Mr. Picker grows in these gardens. Neither the soil nor the locality is ideal for Apples, as a stiff, hard clay, which no root will live in, rises to within a foot or two of the surface. It was easy to see and learn that Mr. Picker had transformed the Apple trees under his charge from a barren to a fruitful state, and this has been done by no haphazard means, but by attention and sound cultivation. The afternoon I spent at Hesselwood was a veritable lesson to me on hardy fruit culture, which he was as pleased to impart as I was to receive, and I look to the time when he will give forth the fruits of his knowledge in the pages of our Journal.—J. T. B., *Hessle*.

LILIUM RUBELLUM.

THIS beautiful Lily is the most recently introduced, and without exception the loveliest of Japanese Lilies for pot culture. During the last two years it has been sent to the European and American markets in large quantities; but, unfortunately for the shippers, at a considerable pecuniary loss, through their not sufficiently appreciating the requirements for the packing of the bulbs. The buyers, on the other hand, have not been successful in its cultivation.

The blame for this is due to the exporters not giving their clients a description of the conditions which surround this Lily in its native habitat. It grows in the northern part of Japan, and is therefore quite hardy. It is found in Pine forests with a dense undergrowth of Bamboo, the soil being dry and poor. It follows that success is likely to attend its culture only by keeping the above information in mind. It is therefore suggested that a poor, stony loam be used with 2 inches of drainage and three bulbs to a 5-inch pot, keeping the soil slightly moist. Over-watering is sure to be disastrous. The pots should be kept in the shade, but not such as would naturally draw the plants. The Lily attains a height of 1 foot, and is compact and sturdy in growth. This character should be maintained.

It may safely be said of this pretty Lily, which blooms in April, or earlier, that it will prove to be the gem of the greenhouse, conservatory, or sitting-room. In Yokohama, out of doors, it flowers at the end of April and beginning of May. It should be grown on a raised bed of poor, dry soil, and out of the sun's rays, or plant it on a dry bank, facing east or north. We in Yokohama grow it under deciduous shrubs close to the roots, where the condition of dryness is natural, and protection is secured from the sun's rays.

L. Kramerii grows in the south of Japan under the same conditions as L. rubellum. It flowers one month later, takes the same cultural treatment, and attains a height of 3 feet.—G. W. ROGERS, *Yokohama*.

[L. rubellum was exhibited by Messrs. Wallace & Co. at the Temple Show in 1898, when it received a first-class certificate from the Royal Horticultural Society. It is most distinct, and its freely borne widely expanded cup shaped flowers are rose coloured. If our correspondent's suggestions prove successful at home it will doubtless be of great decorative value and become justly popular.]

POISONOUS PLANTS.—One of the misfortunes of our time is that there is no attempt made to collate the large number of facts spread over the literary world in the various publications issued everywhere. The United States Government, State establishments, and wealthy societies might well undertake tasks of this kind, but instead, they spend time in experimenting, suggesting, and noting about matters that have been abundantly testified to generations ago. Just now before us an official document notes the bare possibility that precocious ripening in the Peach may indicate the beginning of the disease known as the yellows, and another giving a list of the poisonous roots of plants growing in the State, without the slightest reference to the roots of the common Elder, and expressing doubt about the noxious character of the edible Paranip in its wild state. When Mr. Hovey, the President of the Massachusetts Horticultural Society, died, resolutions for the perpetuation of his memory covered many suggestions. The writer of this paragraph suggested that that Society could do no better honour to his memory than to make an index of his valuable magazine, that facts recorded through this great work would be invaluable to the cause of horticulture. Even at this late day the writer feels the immense importance of such a task, and is making a subject index of "Hovey's Magazine" at his own expense.—("Meehan's Monthly.")

SHORTENING DAYS.

THE last faint touches of the Indian summer sketched on our landscapes tell of the beginning of the end—the end of a season. Contemporaneously with the cessation of active life in the vegetable kingdom comes a desire to promote by all legitimate means Nature's prerogative of rest. Old heads know its value, and work with, rather than against, natural laws; young hands sometimes itch to keep the ball rolling a little longer in order to score another goal, or, at least, to pull up for lost time. Lost time, however, in gardening is not seldom lost for ever; rarely, indeed, is it regained. For those who purposely, or unwittingly, ignore the suzerainty of Nature, there are struggles in store with troubles ahead, and delays are never more dangerous than when backed up by wrong principles as a remedy. One example of this kind is so pertinent; as a matter of fact these brief remarks are chiefly instigated by it, that it may seasonably serve to point a moral.

First there were, on the part of a young head gardener, sins of omission in regard to firing during summer, and, later on, at this time of the year, sins of commission by going full steam ahead. This occurred one season subsequent to and consequent upon a growl over the fuel bill, and although economy, especially in the garden, is a praiseworthy object, the pennywise policy is as foolish there as elsewhere. Crotons, Ixoras, and other shrubby stove plants were found to have made little, or, at the most, very unsatisfactory growth during an all too short and abnormally sunless summer, so, as was implied, the shortening days brought anxiety to force the hand of Nature. Anxiety gave way to elation as the young gardening friend noted the luxuriant growth made by his summer-rested plants—but sad was the sequel. As winter advanced the foliage dropped off, and immature wood became smaller by degrees and miserably less, till the spring found little else than the consumptive remains of a former fine collection.

One can hardly over-estimate the benefit of rest during the dull season, or is it scarcely possible to regard any means conducive to it as labour in vain. Careful watering, the free admission of light, and judicious ventilation, with decreased, instead of increased, temperature as is consistent with safety are all means to the end of rest, and rest at the right time. Plants so cared for amply repay it by a vigorous constitution and plus energy during their growing period, sufficient to mark the difference between success and mediocrity, or, as in the case quoted, failure. Such things are, of course, more or less directly under control; with open-air culture vegetation appears to be less amenable to the ministering hand and more dependant upon natural conditions prevailing. Such, however, is only in a degree apparently so, and the doctrine of judicious thinning and timely removal of superfluous growth from our fruit bearers has been sufficiently disseminated without being repeated here.

The close of a season fortunately affords time for setting our gardens decently in order before the dark days of winter. Cleanliness in them is as great a virtue as elsewhere, and like it, too, is capable of being carried to an excess not conducive to the comfort and well being of the occupants. It is not surprising that the tidy husbandman, like the thrifty housewife, should, in his great autumnal cleaning up, be carried farther than is necessary or beneficial by an excess of zeal. Some of the deriduous inhabitants of beds and borders rest safer when blanketed under the cover of their dead foliage, and it cannot but be regarded as a mistake to denude them of this natural protection. In some cases, with the *Montbretias* for instance, the dead foliage may not only remain through the winter, but be retained until all danger of spring frosts is over, when it can be easily pulled out from among the young growths then in evidence. While visiting a wild garden early last spring one could not fail to notice the recognition given to this natural protection. Hypothetically, in wild gardening Nature has its fling, but in reality few wild gardens escape the tidying mania in some shape or form, and it often takes the form, at this particular season, of the rigorous removal of the *débris* of a season's growth at one fell swoop. In the wild garden under notice all had been left, including the handsome brown stems of *Polygonums*, which give a fine tone of colour to the winter scene.

Whatever cutting down or tidying up of this kind is considered to be the right thing to do, then, undoubtedly, late spring is the right time to do it. The same principle, to some extent, may be extended to herbaceous borders to their advantage, as well as followed up in the ornamental grounds. Such plants as *Gunneras*, which in some localities require a little additional covering during their season of rest, may well have their own foliage supplemented by a further covering of leaves around and over their woolly crowns. It will be found of advantage to encircle the clumps with a guard of ordinary wire netting, kept in position with three or four stout stakes. This not only prevents the leaf covering being swept away by wind, but debars any mischievous rodent from attacking the crown during hard weather. There are many of our more tenderly constituted hardy plants which may be made

snug for the winter with dry leaves confined within a circle of wire netting, which, neatly fixed, will rarely be objected to on the score of unsightliness.—A. N. OLDHEAD.

THREE COUNTRYMEN IN LONDON.

WE were three, two from Somerset and one from the adjoining county of Wilts, all bent on seeing the Great Fruit Show at the Crystal Palace. Two of us travelled to London together on the eve of the Show, and the other was met at the Palace next morning. We were gardeners, although a few years ago one retired from private service for an appointment as Horticultural Instructor in one of the above-named counties. By the time we reached London and had taken some refreshment it was bedtime for countrymen, especially as we had to be about early on Thursday morning, for two of us were exhibitors at the notable Show. Breakfast at seven o'clock, and a start was made for the Crystal Palace Station *via* Victoria, which was reached a little before nine o'clock. The interior of the noble structure was all hurry and bustle, and the morning being fine, everybody looked bright and cheerful. We were busy for about an hour unpacking our fruit and arranging it in the proper places. Staging finished, there was just time for a look round before we were ordered outside the barrier, and the Judges—a fine array—commenced their work in sections, and considering the excellence and extent of the produce to be adjudicated upon they were not very long. Only a little over an hour and we were re-admitted, and of course the first thing to be done was to run round our exhibits to see what prizes we had secured. But, alas! only one each was our share, although we staged some good fruit; but then it has to be extraordinarily good to win at the Palace. This is demonstrated by the fact that some growers and successful exhibitors from the western provinces did not win a single prize. I will not attempt to describe any of the exhibits, as that has already been done, but I may say that this is the second time I have had the pleasure of attending the Show, and I feel sure that the present one excelled in quality the one I saw two years ago.

CHISWICK.

During the day arrangements were made to visit some of the public and private gardens in the suburbs, and accordingly a start was made at nine o'clock on Friday morning. Chiswick was the first halting place, and one of the trio being a F.R.H.S. no difficulty was found in obtaining admittance, and we were soon under the guidance of Mr. Humphreys, the assistant superintendent (Mr. Wright being at the Palace), who showed us through the different departments, and pointed out many things of interest. The great vinery contained an excellent crop of well-finished Grapes, which included some very fine Muscats, perfectly coloured, while the Peach house, although the fruit had been gathered, showed that the crop had been good, and the healthy appearance of the trees augurs well for an excellent crop next year; the same remarks also apply to the Fig houses.

GUNNERSBURY HOUSE.

Taking leave of Mr. Humphreys, a move was made for Gunnersbury House, where we were met by Mr. J. Hudson, V.M.H., who tendered us a hearty welcome. The gardens here have been under the management of Mr. Hudson for a number of years, and although the ownership changed a few years ago, gardening is as highly cherished as ever, for it is in the right hands, both as regards the owner and the gardener. Time was when Mr. Hudson was a specimen plantsman of repute, and he maintains his status by now growing to perfection stock of a more useful size. When I paid him a visit two years ago I was much struck with two basket plants of the beautiful *Begonia Gloire de Lorraine*. Those have since supplied cuttings enough to fill a span-roofed house in two divisions with beautiful plants in 5 and 6-inch pots, which are a sight worth going a long distance to see. Orchids are also well grown, and beautifully flowered, as are many other plants of a varied character. Some years ago Mr. Hudson turned his attention to fruit-growing in pots, and the success that has attended his efforts is marvellous. Peaches, Nectarines, Pears, Plums, and Figs, in perfect health, growing in 10 and 12-inch pots, are arranged in light span-roofed houses, built on Mr. Rivers' principle, and of this feature the grower is justifiably proud. The Water Lilies on the pond were just going over, but the herbaceous borders and the summer bedding were still gay, as were also the Dahlias.

KEW AND SYON.

After refreshing ourselves at a neighbouring restaurant, our next move was in the direction of Kew Gardens, and a walk through the principal houses of this establishment, including the great Palm house and some portion of the grounds, was much enjoyed. We then wended our way to a gate on the river side of the grounds, opposite Syon House, where we were due at three o'clock. On inquiring of the man in charge of the gate as to the best way to reach Syon House he replied, "Oh, you can't get there this way." We then asked for Brentford Ferry, as that would be the best way, and he said he "did not know whether we could get there that way, as he had never been on that side of the river." This surprised us not a little, as, judging by appearance, he could not be less than sixty years of age, and had never been the other side of the river. However, we found the ferry about half a mile further on, crossed the water, and in about fifteen minutes we were at the entrance to Syon Gardens, and soon found the genial Mr. G. Wythes, V.M.H. Under his care we were shown through the plant and fruit departments and the kitchen gardens, the extent of which revealed the fact that the charge is not a light one, especially when we remember that Mr. Wythes is also

responsible for the management of Alnwick Castle Gardens, whither he journeys often.

A heavy downpour of rain prevented our seeing the whole of the grounds, but judging from the portion we saw they are admirably kept, the mowing being done with a steam mower. The flower garden in front of the huge conservatory was still quite bright. To give a description of the many plants grown in this establishment would take up too much space, suffice it therefore to say that everything taken in hand is done well, both inside and out. Hardy fruit forms a feature, and close attention has been given to planting young trees, some of which were bearing handsome fruits. The outdoor Peach trees deserve special notice, so clean and healthy is the foliage. There were still some fruits on the tree of Sea Eagle, from which Mr. Wythes gathered the handsome dish which won him the first prize at the Palace Show the day before. Taking all things into consideration the condition of the place reflects much credit on Mr. Wythes and his staff. It was now drawing near six o'clock, but before we were allowed to go we were refreshed with a capital tea provided by Mrs. Wythes. We left one of our party at Chiswick, the other two finishing a pleasant and busy day with savage South Africa at the Earl's Court Exhibition.

THE CRYSTAL PALACE AND HOME.

Meeting again on Saturday morning, the first part of the day was spent in the City. We had a bus along Piccadilly and the Strand as far as Southampton Street, then a walk through Covent Garden, too late in the day to see much business of the market, but even then it was interesting to countrymen; on past the Law Courts into Fleet Street, calling at Mitre Court Chambers to do a little business at the Journal office, then forward to Ludgate Hill, luncheon at a restaurant close to St. Paul's, then a little shopping, and wended our way back westward via Holborn, High Holborn, Oxford Street, and Piccadilly. At Victoria we entrained for the Crystal Palace, where we were due at six o'clock to "pick up," and found many already busy packing. I am sorry to say there were complaints that some had taken the wrong fruit. My friend had lost his best dish of King of the Pippins, and I met another man with an empty plate in his hand, who remarked, "This is all they have left of one of my dishes of Pears." Fortunately none of mine were touched, and after packing we started for Paddington, the great terminus of the west, en route for home. Thus ended a pleasant three days' visit to London, which was as interesting and instructive as it was enjoyable.—R. M.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE thirteenth annual dinner of this flourishing self-help Society, which was held as announced at the Holborn Restaurant under the chairmanship of W. Y. Baker, Esq., on the evening of Thursday, the 5th inst., was a most successful and enjoyable fixture. The members of the Institution and their friends came out in great force, and the palatial Venetian Chamber was well filled. With the Chairman were his son, Mr. John Baker, and such well known horticulturists as Messrs. Geo. Bunyard, W. Icceton, H. B. May, S. T. Wright, W. Thomson, R. Dean, J. Hudson, J. F. Hudson, S. Mortimer, Thos. Winter, Jas. H. Veitch, P. Kay, G. J. Ingram, B. Wynne, and J. McKerchar.

A comfortable meal despatched, attention was turned to a fairly lengthy toast list, and here it may be said that a commendable example was set, for the speeches though short were pithy and full of sterling common sense.

The Chairman, as in duty bound, gave voice to the loyal feelings towards the reigning house it is customary to express at such assemblies, and then he proceeded to lay before the meeting the claims of that unique Institution—the "United." Briefly he reminded his hearers that the Institution was a savings bank and an insurance against the troubles of old age as well as a benefit society, and amidst cheers he congratulated the members that among a body 890 strong, only three were at present in receipt of assistance. Evidently the gardeners were a healthy class of men. The convalescent fund, Mr. Baker thought, was not supported as it ought to be considering its wonderful power for good, and he also suggested that bigger outlay on postage in publishing the claims of the Society would be a policy of wisdom.

Mr. J. Hudson, the Treasurer, with whose name the toast was coupled, described Mr. Baker as a true friend of gardeners, and he proceeded to make everybody connected with the Society still more comfortable by referring to the £15,000 invested capital that stood to the credit of the funds.

The toast of "The Craft" was placed in the hands of Mr. R. Dean, and coupled with the name of Mr. S. T. Wright, the genial Superintendent of Chiswick, who acknowledged the compliment in a well-turned speech, in which he alluded to the importance into which fruit culture, especially of a commercial character, had sprung of late years.

Other toasts followed, interspersed with songs and recitations from artistes provided by the kindness of the Chairman. Mr. Baker's generosity did not stop here, however, for when the list of subscriptions and donations was read out it was found that out of a total of £40 18s. 6d. he had contributed 15 guineas. Included amongst the other sums were Messrs. J. Veitch & Sons, Ltd., 3 gns.; Messrs. Jno. Laing & Sons, 2 gns.; Messrs. Dickson, Ltd., of Chester, 2 gns.; and Mr. N. N. Sherwood, 5 gns. The proceedings were brought to a close by the singing of the time-honoured "Auld Lang Syne."

A RUN ROUND WEST.

RESUMING my story of a short outing. "I went on the 7th from Devises to Newbury, where Mr. Pope of Highclere Castle kindly met me, and drove me out to that splendid demesne—for it is one of the finest of its kind in the south of England. Highclere has been described fully in the Journal. When I visited it so recently it was under peculiarly favourable conditions, for the showers had caused such a beautiful, bright greenness to pervade the grass of the park that it was deliciously refreshing to look upon. The trees, whether singly or in groups; the fine undulations, the great expanses, the lofty and noble mansion, the 40 to 50 acres of kept pleasure grounds, fine masses of shrubs, and many other beauties, all combined to render the place singularly attractive.

At the time of my visit a great treat was furnished, although for an old frame not without some pain, when in the evening a visit was paid to that lofty and grandly wooded eminence, Siddow Hill, which is just about a mile to the south of the castle. From its great height may be seen one of the grandest pastoral views in the kingdom, the great mansion itself looking quite lilliputian in the foreground. It was a glorious scene on which the eyes rested, as peaceful as it was beautiful. There are no flower gardens immediately near the castle, but some lie away beyond the dense mass of shrubs that separate them from the lawn. Here there was much that was bright and gay. Here, too, are the chief plant houses and some fruit houses, notably a good range of vineries, not long since rebuilt, and where capital fruit is grown, though there is none too much of glass for so fine a place.

The vegetable gardens and some other glass lie on the other side of the pleasure grounds, and it is a pity that all the houses were not there concentrated. In these houses Pines, Melons, Grapes, Peaches, Nectarines, Figs, Tomatoes, and other luscious products are grown in considerable quantity.

A matter of special interest was the fine collection of Onions at Highclere, for Mr. Pope is one of the champion vegetable exhibitors, and I naturally looked for fine bulbs, and was not disappointed. Of these, from winter-raised plants put out in the spring, as is the method adopted by all the great growers now, there were huge bulbs of Ne Plus Ultra, a very large and reddish selection from, or bred from, Ailsa Craig. This is a rather later ripener than is the one named. Ailsa Craig in very fine clean form is a harder and handsomer Onion, for constant selection has brought it nearer to the usually handsome Excelsior, also here in capital form, and one of the best of the Globe type. The new Aristocrat is a disappointing Onion, as the bulbs are of moderate size and flattish, ripening early. It seems to be only Rousham Park or Banbury Cross, or perhaps Lord Keeper, so much do these flattish round Onions resemble each other. Besides those named there were the Wildsmith, a stock far from being true to character; Lord Keeper, The Tankard, one of Mr. Pope's own selections, Cocoa-nut, Veitch's Maincrop, James' Keeping, and others. Whether from glass-raised or outdoor sown, the bulbs were first-rate.

Carrots, Parsnips and Beets, because the soil is far from kindly, have to be grown in holes previously made with a bar, then filled with fine soil; but the results are first-rate. Runner Beans are very fine, really grand rows of Sutton's Best of All, Ne Plus Ultra, Hill's Prize, and Carter's Jubilee being in heavy cropping. Leeks in three varieties, all wonderfully good; so, indeed, are all vegetables. It is only needful to take stock of the culture here given to understand how it is that Mr. Pope is such a champion amongst vegetable exhibitors.

HACKWOOD PARK.

It is not many miles as the crow flies to Hackwood Park, Basingstoke, but to reach there I had to take train on the Didcot line to Whitechurch, and thence to the Basingstoke station. Mr. Bowerman kindly met me in the Great Park, and escorted me to the kitchen garden, probably the finest in Hampshire, where the first subjects of interest were his giant Onions, really a superb stock, of which he has besides his own famous stock of Ailsa Craig, Ne Plus Ultra, Aristocrat, Excelsior, and several others. The characters of these varieties here are just the same as seen at Highclere. It is very difficult to say which garden gives the finest samples, all are so good. The ordinary spring sown breadth has given for the season a capital crop also, but not equal to what has been seen in some previous moister seasons. However, there is no falling off in Onion culture.

The soil is so deeply worked and well fed that there are splendid crops of Potatoes, Carrots, Beets, Parsnips, and other roots, and Celery and Leeks are first rate. How such a garden as this evidences the value of deep working and high class cultivation! A fine feature of the walls is found in the Plum crop, for this fruit is largely grown. Rivers' Early Prolific, Czar, Victoria, very fine fruits, large Black Imperial, Pond's Seedling, Sultan, and Grand Duke were of the best cooking Plums; and of dessert varieties, Denniston's Superb, Jefferson, Oullins Golden Gage, Brahy's Green Gage, and Coe's Golden Drop were in heavy cropping, or had been. I have seen no better Plum wall anywhere than is this east wall at Hackwood. Victorias also crop finely and later on a north wall.

Perfect pictures were 4 feet high espaliers of Lane's Prince Albert Apple, splendidly fruited. Mr. Bowerman led me to see an enclosed pinetum, in which there are grand specimens, and at the upper end is a dismantled Greek temple, which is in odd contrast with the noble trees. The few hours' visit was, however, soon over, and then off home to work.—A. D.

SAPONARIA BOISSIERI.

THIS plant, "L. Row," was first sent to Kew in the early portion of 1894 by Mr. Sunderman, of Innsbruck, and flowered in the alpine house in July of that year. It is a charming plant, with bright pure pink petals, the flowers in numerous clusters borne upon prostrate stems (fig. 64). It is dwarfier than the allied *S. ocyroides*, which has been known in the rock garden for many years. Another species is *S. cespitosa*, which bears its leaves in dense tufts. The English species is the common Soapwort (*S. officinalis*), found most plentifully in Devon and Cornwall, but also near dwellings in many other parts of great Britain and Ireland, presumably as an escape from cultivation. *S. racconia* is also found occasionally wild in our southern cornfields, brought over from the Continent with seeds.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—OCTOBER 10TH.

CONSIDERING the period of the year and the dull raw fog with which the morning was ushered, the meeting on Tuesday was an excellent one. The well diversified exhibits occupied a large proportion of the available space, and were, generally speaking, of much interest. Chrysanthemums played no unimportant part in the display, towards which hardy flowers and foliage added their share. Orchids of course were sparse, while exhibits before the Fruit and Vegetable Committee were numerous and good.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair); with the Rev. W. Wilks and Messrs. J. H. Veitch, W. Poupert, A. H. Pearson, A. F. Barron, J. Wright, A. Dean, S. Mortimer, W. Bates, G. Woodward, G. Wythes, C. Herrin, W. J. Empson, F. Q. Lane, G. Reynolds, J. Smith, R. Fife, J. Willard, G. Bunyard, H. Balderson, W. Pope, and J. Cheal.

Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, sent a varied collection of Apples and Pears. Individually the fruits were not particularly large, but they were clean, shapely, and generally of brilliant colour. Of the Apples the best were Emperor Alexander, Potts' Seedling, Newton Wonder, Adam's Pearmain, Dr. Hogg, Worcester Pearmain, Peasgood's Nonesuch, Cox's Pomona, Mabbott's Pearmain, The Queen, Gascoyne's Scarlet Seedling, Cellini, New Lodge Pippin, Court Pendu Plat, Barnack Beauty, Cox's Orange Pippin, and Royal Russet. Amongst the most conspicuous Pears were Pitmaaston Duchess, Beurré Rance, Beurré Diel, Gansel's Bergamot, Knight's Monarch, Doyenné du Comice, Emile d'Heyst, Beurré Hardy, and Winter Nellis (silver Knightian medal).

Mr. R. W. Green, Wisbech, contributed a collection of 'fifty distinct varieties of Potatoes. The tubers were of average size, even in shape, and exceptionally clean. Particularly prominent were Sutton's Ring-leader, Early Puritan, The Bruce, Sharpe's Victor, Beauty of Hebron, Clark's Main Crop, Magnum Bonum, Daniel's Universal, Snowdrop, Reading Russet, Stourbridge Glory, Reading Giant, Green's Favourite (a new and heavy cropping variety), Windsor Castle, Daniel's Special, and Fidler's Colossal. The fact that these were all field grown made the exhibit all the more creditable (silver Knightian medal). Mr. J. Key Allen, Bitterne Park, Southampton (an amateur), exhibited ten dishes of Apples in good condition. Warner's King, Golden Noble, and Cellini were the best (bronze Banksian medal).

Mr. Chas. Ross, gardener to Captain Carstairs, Welford Park, staged a dish of the excellent new Apple, Thomas Andrew Knight, which was illustrated and described in the *Journal of Horticulture* for September 28th, page 265. The general desire being that the name should be changed to Chas. Ross, after the raiser, this was done, and by this name the variety will henceforth be known. We understand that the stock has been procured by Mr. W. Horne, of Cliffe, Rochester, by whom the variety will be distributed. Mr. Owen Thomas, V.M.H., Royal Gardens, Windsor, staged Tomato The Epicure, a variety that is excellent for the time of year. The fruits are medium to small in size, and borne in clusters of half a dozen and upwards. Messrs. Spooner & Sons sent from Hounslow Apple The Baron. Melons of considerable promise were sent by Mr. Bewick, gardener to Mrs. Cook, Walton-on-Thames, Mr. G. Wythes, Sycn Gardens, and Mr. W. J. Empson, Amptill, and the Committee desired to see them earlier in the season another year.

Three dozen dishes of Pears were shown by Mr. C. Blick, gardener to Martin R. Smith, Esq., Hayes. The splendid fruits admirably demonstrated Mr. Blick's ability to grow fruit as well as Carnations. They were of good size, clean, and well formed. The most noticeable were Beurré Hardy, Magnate, Marie Louise d'Uccle, Marie Louise, Beurré Superfin, Conference, Fondante d'Automne, Beurré Fouqueray, Marie Benoist, Pitmaaston Duchess, Emile d'Heyst, Brown Beurré, Doyenné du Comice, Doyenné Boussoch, Marguerite Marillat, Beurré Diel, Thompson's, Glou Morceau, Louise Bonne de Jersey, Brockworth Park, and Duncdeau (silver-gilt Banksian medal).

Upwards of 100 dishes of Apples and Pears came from Mr. Geo. Woodward, gardener to R. Leigh, Esq., Barham Court, Maidstone, amongst which were some of the finest fruit we have seen this season. Particularly excellent were Emperor Alexander, Stone's, Warner's King, The Queen, New Hawthornden, Bramley's Seedling, Alfriston, Queen Caroline, Lord Derby, Lord Suffield, Peasgood's Nonesuch, Tower of Glamis, Golden Noble, Tyler's Kernel, Gascoyne's Scarlet Seedling, Sandringham, Adam's Pearmain, Scarlet Nonpareil, Royal Russet,

Mother, St. Edmund's Pippin, Washington, Vicar of Beighton, Wadhurst Pippin, Ribston Pippin, and Yorkshire Beauty. Of the fifty varieties of Pears we may select Gansel's Bergamot, Brockworth Park, Beurré Superfin, Conference, Beurré Hardy, Duchesse d'Angoulême, Pitmaaston Duchess, Beurré Diel, Joséphine de Malines, Doyenné du Comice, Marie Louise, Magnate, Madame Treyve, Knight's Monarch, Marguerite Marillat, and Beurré Dumont (silver-gilt Knightian medal).

FLORAL COMMITTEE.—Present: C. E. Shea, Esq. (in the chair); with Messrs. O. Thomas, H. B. May, W. Howe, J. Hudson, J. Jennings, J. Peed, J. T. Bennett-Poë, J. D. Pawle, E. H. Jenkins, C. Blick, H. Turner, C. Jefferies, and W. Marshall.

A semicircular group of Chrysanthemums was arranged by Messrs. J. Veitch & Sons, Chelsea. The well grown plants were carrying stout foliage and large, clean, well coloured flowers. The varieties included James Bidenscope, President Armand, Madame Gustave Henry, Little Nell, Louise, A. H. Fewkes, and Emily Silsbury. The same firm contributed a collection of foliage to show autumn tints, and the display was most interesting. Messrs. Veitch sent also Rhododendrons javanicol-jasminiflorum hybrids (silver Flora medal). Messrs. Barr & Sons,

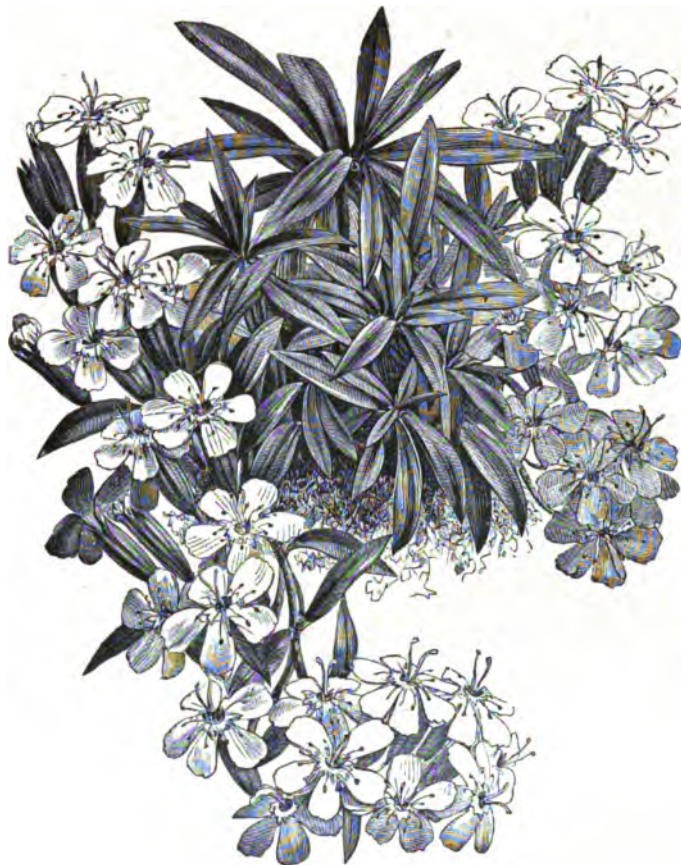


FIG. 64.—SAPONARIA BOISSIERI.

Covent Garden, were represented by a collection of hardy flowers, such as Michaelmas Daisies, Chrysanthemums, with autumn Crocuses.

Messrs. J. Peed & Sons, Upper Norwood, exhibited a collection of shrubs suitable for London gardens. They comprised the several kinds that are popular and well known for smoky areas (silver Banksian medal). Messrs. Paul & Son, Old Nurseries, Cheshunt, arranged several boxes of cut Roses, in which there were many blooms of exceptional excellence. Some of the most attractive were Maman Cochet, Madame Pernet Ducher, and Mrs. W. J. Grant. Rose hedges came from the same source (silver Flora medal).

Messrs. W. Wells & Co., Earlswood Nursery, Red Hill, sent a handsome collection of Chrysanthemums, including large and small blooms, all of excellent quality. Very bright were R. Hooper Pearson, Lady Phillips, Mytchett Beauty, Coral Queen, Nellie Brown, Jules Mary, Mrs. Hawkins Improved, Lily Boutroy, Ambrose Thomas, Madame E. Lefort, Emily Towers, Charles Joly, Filberts, and Arthur Crepey (silver-gilt Banksian medal). Messrs. W. Cutbush & Sons, Highgate, sent miscellaneous foliage and flowering plants, including Oranges, Carex, Aralias, Ericas, Palma, with a central bank of Nerin. Fothergilli major (silver Banksian medal). Mr. H. B. May, Upper Edmonton, showed scarlet Salvias rising from a groundwork of Ferns, and with Bouvardias at intervals (silver Banksian medal).

Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, arranged a superb collection of Michaelmas Daisies which occupied a considerable amount of space. Each variety was represented by an immense bunch, the equal of which has seldom, if ever, been seen in the Drill Hall. As the whole of the most popular, and the majority of

the rarer varieties were included, we need not mention any names (silver-gilt Flora medal).

ORCHID COMMITTEE.—Present: J. Gurney Fowler, Esq. (in the chair); with Messrs. J. O'Brien, J. Colman, J. Jacques, E. Hill, T. W. Bond, W. H. Young, H. J. Chapman, H. Little, A. H. Smee, and T. B. Haywood.

As had been intimated, Orchids were by no means numerous. Messrs. H. Low & Co., Bush Hill Park, showed *Cattleya Gaskelliana* alba, *Cypripedium Olivis*, *Lælia pumila* magnifica, *Cymbidium Tracayanum*, *Cattleya Mantini nobilior*, with several plants of *Statice profusa*. Mr. J. Bradshaw had a small group of Orchids, including several well-flowered plants (silver Banksian medal). Messrs. F. Sander & Co. exhibited *Stenoglottis longifolia* and *Bulbophyllum grandiflorum*. Mr. T. Hardy, Tyntesfield, Ashton-on-Mersey, sent *Sophr. Cattleya* George Hardy and *Lælia Enterpe* Tyntesfield variety. Messrs. J. Veitch and Sons showed *Cattleya Minerva*, while Mr. S. Cook, gardener to De Barri Crawshaw, Esq., Sevenoaks, sent *Lælia pumila* Lionel Crawshaw, *Cattleya Hardyana* Crawshaw's variety. Mr. F. W. Thorogood, gardener to H. T. Pitt, Esq., Stamford Hill, showed *Odontoglossum grande* Pittanum, *Bulbophyllum grandiflorum*, and *Saccolabium calceolus*. Mr. W. Stevens, gardener to W. Thompson, Esq., Stone, Staffs, was represented by *Odontoglossum crispum* Queen Empress, O. c. Kalm, and O. c. Daphne. Mr. Henry Little sent from Twickenham *Cattleya aurea* Little's variety, C. Mantini nobilior, and C. Schofieldiana Little's variety.

CERTIFICATES AND AWARDS OF MERIT.

Apple Chas. Ross (C. Ross).—This Apple received an award of merit on September 26th under the name of T. A. Knight. It will hereafter be known as Chas. Ross, and has been awarded a first-class certificate.

Aster R. Parker nanus (W. H. Lees).—To say that this is a dwarf form of Robert Parker will be sufficient description (award of merit).

Aster Amellus Distinction (W. H. Lees).—A variety of much beauty. The large flowers are mauve in colour (award of merit).

Cattleya au ea Little's variety (H. Little).—A strikingly handsome form of the well-known type (award of merit).

Odontoglossum crispum Daphne (W. Stevens).—A beautiful form. The sepals are white, but the ground is almost obscured by an immense pale violet patch, the petals being paper white with sparse spots of a similar colour to the sepals. The imbricated lip is white with a brown patch and a yellow throat (award of merit).

Odontoglossum grande Pittanum (H. T. Pitt).—A lovely flower. The sepals and petals are delicate greenish-yellow barred with darker yellow. The broad flat lip is white (award of merit).

Pear Marguerite Marillat (G. Woodward).—A magnificent variety that is now comparatively well known. It is large, pale yellow, heavily spotted with brown, and having russet round the eye. The stalk is short and inserted on the side of the fruit (award of merit).

THE INJURIOUS SCALE INSECTS OF THE BRITISH ISLANDS.

Such was the title of a lecture given by Mr. Robert Newstead, F.E.S., Curator of the Grosvenor Museum, Chester, at the afternoon meeting in the Drill Hall. In introducing the lecturer, Mr. McLachlan, who presided, referred to Mr. Newstead having been in earlier years a professional gardener, a fact which enabled him to speak as a practical cultivator as well as a scientist. The lecturer dived immediately into his subject by the aid of photographic and diagrammatic lantern slides, which proved most attractive to the audience. In clear terse style, with a happy freedom from unnecessary technical terms, each picture was explained, and the glimpses of the life history of several scale insects were interesting as well as instructive. The males and females of the scale insects that attack Ash, Eucalyptus, the San José of America, Roses, Plums, Figs, Apples, Pears, and Nectarines, Hawthorn, and others, were severally dealt with, and in the majority of cases portrayed on the sheet, as also were the mealy and Lantana bugs.

The lecturer laid particular stress on the fact that the scale is really the outer casing which enclosed the insect, and pointed out that operators in using exterminators must remember this, or their applications might be rendered useless, from the fact that the remedy never reaches the actual pest unless properly applied. Mr. Newstead adverted at more length to the San José scale, as it had created much notice in the country, and because he had been written to from Whitehall for information regarding its presence in this country, and the chances of its establishment. Happily he was able to reply that it had not been reported, and that he did not consider the climatic conditions favourable to its living in the British Isles. The well-known mussel scale of Apples was referred to as not spreading rapidly, and seldom causing death of shoots, except in the case of Cotoneaster. He dilated on the immense preponderance of the females, adding that the males were rarely seen; and further, that he had found and described the first male in this country, though not on the Apple, but on Broom and Heather.

The small galls that are seen from time to time on Oaks were, remarked the lecturer, caused by a minute scale insect which was shown on the sheet. The brown scale of Peaches and Nectarines was referred to as not covering itself with a hard casing. It is now in the larval stage, which is the time when steps for eradication ought to be taken. It shows in the form of minute specks on the bark, these being females, and, added Mr. Newstead, no male had yet been found. Several others were noted and their natural enemies mentioned, together with some remedial measures, and Mr. Newstead was thanked for his valuable discourse. As is customary, the entire paper will be given in the Journal of the Royal Horticultural Society, and will be found of great value to cultivators.

HORTICULTURAL SHOWS.

LOUGHBOROUGH FRUIT.—OCTOBER 3RD.

THE Loughborough Gardeners' Mutual Improvement Association held its third annual exhibition of hardy fruits and flowers on Tuesday, October 3rd, in the Corn Exchange. Taking the season in'o consideration, and the partiality of the fruit crops in the district, the Association is to be congratulated on the display made on this occasion.

Mr. H. Merryweather of Southwell staged forty dishes of exceedingly fine Apples, amongst the best of which were Peasgood's Nonesuch, Gascogne's Scarlet, Prince Albert, Gold Medal, Royal Jubilee, Bismarck, Lady Sudeley, The Queen, Warner's King, Lord Derby, Bramley's Seedling (very fine), Grenadier, and Ecklinville Seedling.

Hussey Packe, Esq., J.P., D.L., Prestwold Hall (gardener, Mr. D. Roberts), contributed thirty dishes of Apples and twenty dishes of Pears, good samples of fruits being observed of Warner's King, Lodington Seedling, Prince Albert, Lady Fenniker, Frogmore Prolific, Newton Wonder Apples; with Pitmaston Duchesse, General Todtleben, Catillac, and Uvedale's St. Germain Pears. Rt. Hon. Lord Belper, Kingston Hall, near Derby (gardener, Mr. W. English), exhibited seventy-four dishes of Apples and Pears, chiefly from orchard standards. James Ellis, Esq., J.P., The Gynsilla, Leicester (gardener, Mr. Needham), contributed sixty-five dishes of very showy Apples, all grown on orchard standards, and representing an excellent assortment, suited to the Midlands. Collections of fruits were also shown by C. T. Parker, Esq., Quorn Lodge (gardener, Mr. J. Powell); J. Clarke, Esq. (gardener, Mr. C. Harlis); Mr. H. Hickling, The Old Nurseries; Messrs. Smith & Son, Derby Road Nurseries; and Mr. G. Tucker, Leicester.

Messrs. J. Smith & Son showed twenty-four varieties of Pompons and thirty varieties of Cactus Dahlias, staged in threes, which made an effective display, backed by early flowering Chrysanthemums of the newest and best varieties. Mr. H. Hickling arranged a striking exhibit with a background of Gladiolus and thirty-six Show and eighteen Cactus Dahlias. The Show varieties, especially Perfection, Mrs. Saunders, Mr. Chamberlain, Colonelist, Mont Blanc, John Hickling, Mrs. Langtry, and Mrs. Kendall were very fine. The exhibition was largely attended, and the exhibits fully appreciated.

In the evening Mr. E. A. Merryweather, of Southwell, gave a lecture on the "Incidental Care of Fruit Trees to Give the Best Results." The lecturer referred to the large importation of fruits into this country, much of the money being spent in foreign fruits which might be distributed at home. The cardinal points dealt with were the preparation of soil, cultivated versus grass orchards, planting, staking, pruning, root-pruning, manuring, quantities of farmyard and artificial manures, insects injurious to the Apples, their extermination, gathering and storing the fruits, grading, and packing. The remarks were attentively listened to and appreciated by a large audience, the meeting being presided over by Alderman Tidd, J.P., ex-Mayor. The usual voices of thanks were accorded the lecturer and Chairman. A most instructive evening was spent; it was the opening night of the Association's winter session.

ISLE OF WIGHT FRUIT.—OCTOBER 4TH.

THE Isle of Wight Horticultural Improvement Association held its sixth annual exhibition of fruit and honey at the Ryde Town Hall on Wednesday, 4th inst. Mr. J. Dimmick, of Ryde, supplied a collection of foliage and flowering plants, which gave the hall a very imposing appearance. The exhibits were numerous, and of first-class quality. The attendance unfortunately was limited on account of the rain, which fell incessantly all day. The exhibition was opened by Dr. B. Barrow, J.P., who was introduced by Dr. J. Groves, Chairman of the Association, and supported by County Alderman T. Gibbs, Alderman James James, J.P., C.C., Mr. J. O. Brook, C.C., Alderman S. Fowler, Mr. R. Colenutt, J.P., and others. Dr. Barrow spoke at some length on the value of horticulture, and particularly as a commercial industry for the garden Isle, which was specially favoured in many respects for successful gardening.

The following were the principal exhibitors:—

Mr. W. Taylor, gardener to Admiral Denison, Woodside, Wootton, who staged sixty-five dishes of fruits, including Apples, Pears, Crabs and Medlars, and received for his exhibit a F.C.C. and a silver medal, offered by Messrs. J. Cheal & Sons, of Crawley. Mr. T. Collister, gardener to J. F. Thorneycroft, Esq., Steyne, Bembridge, exhibited thirty-six dishes of very fine fruit, and was awarded a F.C.C., with the silver medal given by Messrs. Toogood & Sons. Mr. Geo. Honeybourne, gardener to Lady Daly, St. Wilfred's, Ryde, staged thirty-four dishes of Apples and Pears, and was awarded a F.C.C., with a silver medal offered by Messrs. J. Cheal & Sons. Mr. S. Banks, gardener to Lady Atherley, Landguard Manor, Shanklin, sent fifty-three dishes of fruit, including Apples, Pears, Grapes, and Tomatoes, which exhibit well deserved the award made to it of a F.C.C. and a silver medal given by Messrs. J. Cheal & Sons. Mr. H. Jacobs, gardener to W. H. Chatfield Clarke, Esq., Cleveland, Niton, obtained a V.H.C. for his collection of Apples and Pears. Mr. Frank Orchard, Harbour Mount Gardens, Bembridge, obtained a F.C.C. for his exhibit of Apples and Pears. Mr. Geo. Williams, of Gatcombe, staged twenty-five dishes of fruit, including Plums, Apples and Pears, and received a bronze medal, given by Messrs. Toogood & Sons.

Amongst the other exhibitors were Messrs. H. Webber, J. O. Brook, C.C., G. H. Burt, W. Hillier, B. Colenutt (who received a F.C.C.), Geo. Lipscombe, and T. Gibbs. A cultural certificate was awarded to Mr. Gibbs for a fine dish of Apple Emperor Alexander, whilst a similar award was made to Mr. Lipscombe for a dish of Warner's King. Messrs.

Cheal & Sons received a F.C.C. for their fine exhibit of Apples and Pears, consisting of about ninety dishes. Mr. G. H. Kent, gardener to Mrs. E. Croft Murray, Perivale, Ryde, also received a similar award for a collection of out flowers in upwards of sixty varieties. Mr. C. H. Harris' exhibit of honey was also recognised by a certificate. The Honorary Secretary (Mr. S. Heaton) received valuable assistance from Messrs. E. V. Matthews, J. C. Mundell, G. Butcher, J. Eley, and J. Grimes in superintending the staging of the exhibits. Mr. A. Wallis, fruit foreman to Messrs. Cheal, judged the Island fruit.

ROYAL AQUARIUM.—OCTOBER 10TH, 11TH, AND 12TH.

THE first Exhibition of the National Chrysanthemum Society was held at the Royal Aquarium, and proved to be above the average of the October Shows. Many of the classes were keenly contested, and the trade exhibitors turned up in strong force, and made a splendid show in themselves.

There were three competitors for the group of Chrysanthemums and foliage plants arranged for effect to fill a space of 72 superficial feet, with the proviso that all the plants are to be grown by the exhibitor. Mr. J. Spink, Summit Road Nursery, Walthamstow, added to his previous successes by again securing the premier award at this Show. The group was composed of single bloom plants, arranged with *Cocos Weddelliana*, *Eulalias*, and *Ferns*. The arrangement was excellent and the blooms splendid. The best blooms were Madame Gustave Henry, M. Couvat de Terrail, Phœbus, Mr. T. Carrington, Lady Phillips, Soleil d'Octobre, Mrs. W. Seward, R. H. Pearson, and Annie Prevost. Mr. W. Howe, gardener to Sir Henry Tate, Bart., Streatham Common, was second with a group, somewhat heavily arranged, though the material was good; while Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley, was third.

There were four competitors staged for twenty-four blooms, Japanese, in not less than eighteen varieties. Unfortunately Mr. M. Gleeson, gardener to A. Von André, Esq., Stanmore, made a mistake in staging which brought about the disqualification of his exhibit, and the first prize was awarded to Mr. Jas. Brookes, gardener to W. T. Newman, Esq., Totteridge. His blooms were Pride of Madford, Mrs. J. W. Barks, Mrs. W. H. Lees, Edith Tabor, Mrs. J. Lewis, Soleil d'Octobre, Mrs. W. H. Lees, Mrs. Barks, Oceana, Mrs. J. Lewis, Mrs. G. W. Palmer, Lady Byron, Mr. F. Brewer, Pride of Exmouth, Werther, Mrs. C. H. Payne, Mdlle. L. Brosillon, Madame M. Ricoud, Pride of Exmouth, Soleil d'Octobre, Emily Silsbury, Reine d'Angleterre, Madame Gustave Henry, and Oceana. Mr. J. Fulford, gardener to F. D. Lambert, Esq., Cookham, was second with a nice display. The best blooms were Dorothy Seward, Lady Phillips, Mrs. J. Lewis, Belle Mauve, Modesto, and John Seward; and Mr. W. J. Prewitt, gardener to C. A. Pearson, Esq., Farnham, was third with weaker flowers.

The stands for twelve blooms, Japanese, distinct, were excellent, and made a good show, Mr. M. Gleeson being a good first. His blooms were deep and well finished. The varieties were Mons. Chenon de Léché, Ella Curtis, Australie, Thos. Wilkins, Mad. G. Bruant, Mutual Friend, Elthorne Beauty, Simplicity, Henry Weeks, Emily Towers, Mrs. Weeks, and Joseph Brookes; Mr. Jas. Brookes followed with good blooms of Soleil d'Octobre, Mrs. J. Lewis, Mrs. Barks, and Pride of Exmouth; while Mr. C. Cox, Brickendon Grange, was third.

There were nine entries for six blooms Japanese, distinct, and the first prize was awarded to Mr. W. Meredith, gardener to G. Wilder, Esq., Emsworth, for a capital six. The varieties employed were Australie, Mrs. D. Dewar, Edith Tabor, Jas. Bidecoope, Madame Philippe Rivoire, and Oceano. Mr. C. Payne, gardener to C. J. Whittington, Esq., Bickley Park, was a good second, staging Madame Gustave Henry, Mrs. Coombes, Jane Molyneux, and General Paquie in good style, and Mr. F. Vallis, Bromham Fruit Farm, Chippenham, was third. For six blooms, one variety, there were seven entries, the premier prize being adjudged to Mr. R. Gladwell, gardener to S. Smith, Esq., South Norwood, for a grand exhibit of Australie; Mr. W. Paton, gardener to Mrs. Harmsworth, Totteridge, second, for Madame Gustave Henry; and Mr. A. Page, gardener to A. L. Reynolds, Esq., Finchley, third, for Phœbus. There were only two entries for six incurved blooms, and Mr. R. Jones, gardener to C. A. Smith-Ryland, Esq., Warwick, was first with neat blooms of Mons. R. Bruant, Globe d'Or, D. B. Crane, Ada Owen, and Lord Coleridge; while Mr. T. Robinson, gardener to Mrs. Lawrence, Hollingbourne, followed with rather coarse flowers.

Strange to say, the Pompons were only patronised by one exhibitor in each class. The first prize was awarded to Mr. T. L. Turk, gardener to T. Boney, Esq., Highgate, for twelve bunches, and a splendid exhibit it proved to be. The varieties were La Vesuve, Osiris, Veuve Clique, Mdlle. Elise Jordan, Miss Davis, White St. Crouta, Alice Butcher, and Blanche Colomb. For six bunches Mr. A. Taylor, East Finchley, was the only exhibitor, and was awarded third prize. For two vases of Chrysanthemums arranged with suitable foliage Mr. Jas. Brooks was the only exhibitor, and was deservedly awarded the first prize. There were three entries for twelve bunches of early flowering varieties, and the first prize was allotted to Mr. W. Paton for a good display. The varieties were François Vuillermet, Harvest Home, Madame Desgrange, Mrs. J. Pitcher, Ivy Stark, Blanche Colomb, Madame Marie Masse, G. Wermig, and Lady Mary Fitzwygram. Mr. E. Such, Maidenhead, must have been a close second. He had excellent bunches of Madame Marie Masse, Coral Queen, Madame E. Morel, and Harvest Home; while Mr. A. Taylor, East Finchley, was third.

In the amateurs' class for twelve blooms, Japanese, distinct, there were three exhibitors, and Mr. R. Gladwell scored leading honours with a good board. The varieties most prominent were Mad. G. Bruant, Simplicity,

Louise, Phœbus, Suzie, and Australia, while Mr. W. Perrin, gardener to C. W. Richardson, Esq., Sawbridgeworth, was a good second; his best blooms were Emily Silsbury, Australie, Mutual Friend, and Mons. Hoste, and Mr. A. Page was third. For six blooms, Japanese, distinct, Mr. R. Gladwell was again to the fore with good blooms of Louise, Werther, Mad. R. de Massy, Oceana, Mons. Chenon de Léché, and Emily Silsbury, Mr. W. Perrin again taking a good second place, and Mr. T. L. Turk third. There were eight boards staged in this class. In the division devoted to amateurs in the strict sense of the word, for twelve blooms in not less than six varieties, Mr. W. G. P. Clark, Hitchin, was first with a fair display, closely followed by Mr. Martin Silsbury, Shanklin.

NON-COMPETITIVE EXHIBITS.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, was well represented with a group of Chrysanthemums, flanked on the one hand with a group of Crotons, and on the other with a similar group of Dracenas. Needless to say the arrangement was capital, and up to Mr. Jones' usual form. Again Messrs. H. Cannell & Sons, Swanley, demonstrated the value of Cannas at this season. The plants on this occasion were well flowered and exceedingly bright, proving how valuable they are for decorative purposes. From Messrs. W. Cutbush & Son, Highgate, came an excellent table of Apples, Pears, and Oranges in pots, relieved with a few small Palms. The best dishes were Pitmaston Duchess, Catillac, General Tottleben, Doyenné du Comice, Beurré Clairgeau, and Maréchal de Cour. The Apples were bright, clear, and well coloured, and included dishes of Crimson Devon, Lady Sudeley, Duchess of Gloucester, Peasgood's Nonesuch, Yorkshire Beauty, Royal Codlin, Barnack Beauty, Emily Childs, and Bramley's Seedling.

Messrs. T. S. Ware, Ltd., Tottenham, arranged a display of Cactus Dahlias, which were bright considering the late season; also a collection of Asters and some early flowering Chrysanthemums. The display was lightened with Bamboos and Eulalias in pots. Mr. W. J. Godfrey, Exmouth, Devon, staged a large display of cut flowers, admirably arranged in a bed of foliage and small Maidenhair Ferns; also pot plants of Ettie Mitchell, a bronze decorative variety of promise. The best blooms were Madame Budde, Reginald Godfrey, Lady Ridgway, General Paque, Queen of the Earlies, Lord Coleridge, together with a display of Asters and a few bunches of tree Carnations, which were bright and effective. Messrs. J. Laing & Sons, Forest Hill, had a grand display of fruit, arranged with trees in pots and a few autumn-flowering plants, while the centre was decorated with Red Currant, Tomatoes, and bunches of Crataegus berries, which imparted a pleasing effect to the display. The Apples were especially fine, some grand dishes of Peasgood's Nonesuch, Cox's Pomona, Mère de Ménage, Emperor Alexander, Warner's King, and Gascoyne's Scarlet; while Pears, Nuts, Medlars, Quinces, and Gourds completed the display. The same firm also decorated the fountain again with a choice selection of Ivies and variegated plants. A collection of clipped Yews and Box trees also attracted much attention.

Mr. W. T. Prewitt, gardener to Arthur Pearson, Esq., Farnham, staged a fine collection of Apples and Pears, the whole being well grown, and a representative display. Mr. Eric F. Such, Maidenhead, arranged a large table of early flowering Chrysanthemums and a good display of Asters. Messrs. Dobbie & Co., Rothesay, staged a large double bank of early flowering Chrysanthemums, chief of which were Martinmas, Harvest Home, Mrs. J. R. Pitcher, Bronze Prince, Crimson Marie Masse, Mrs. Hawkins, Longfellow, Albert Rose, Edith Syrett, Madame Zephir, Lionel, and Flora; also a pretty collection of single Cactus Dahlias.

Messrs. R. & G. Cuihbert, Southgate, exhibited a group of the useful decorative Chrysanthemum Mrs. Wingfield, arranged on a bed of Palms, Ferns, and variegated Abutilons. A fine collection of Apples was staged by Messrs. S. Spooner & Sons, Hounslow, in baskets and dishes. The fruits were remarkably clean and well developed. Mr. H. Deverill, Banbury, arranged a bank of autumn flowers, chiefly consisting of Asters, early flowering Chrysanthemums, Montbretias, and Gladioli.

EMIGRANTS' INFORMATION OFFICE.—The October circulars of the Emigrants' Information Office and the annual editions of the penny handbooks show the present prospects of emigration. The notice boards are now exhibited, and the circulars may be obtained free of charge at nearly 500 public libraries and institutions throughout the country. It is now too late in the season for the ordinary emigrant to go to Canada, unless he has friends to go to, or money to keep him during the winter. In New South Wales there is very little demand for more labour at the present time; but thoroughly skilled dairymen and farm labourers have generally little difficulty in finding employment in country districts. In Victoria a considerable number of persons at Melbourne continue to complain of inability to find work. There are excellent openings, as a rule, for farmers, dairy farmers, and fruit growers if they have a little capital and some experience of the country. In South Australia there is a good opening on farms and stations for a few married couples without children. In Queensland the demand for *bonâ fide* farm labourers and female servants continues, and free passages to the Colony are being granted to both these classes of labour. In Western Australia the chief demand is for farm labourers, female domestic servants, and skilled miners. Free homesteads of 160 acres are being offered to settlers. New Zealand offers great advantages to farmers and others with a little capital. A number of persons continue to arrive in Cape Colony, notwithstanding the repeated warnings which have been published. At the present time there are said to be several thousands of unemployed persons in Cape Town alone; and the numbers are likely to be increased, unless affairs in the border States speedily assume a more favourable character. In Natal there is no demand for more labour.

THE YOUNG GARDENERS' DOMAIN.

THE HERBACEOUS CALCEOLARIA.

HAVING omitted to state in my article on the Calceolaria, in the *Journal of Horticulture* for September 28th, the time I think best for sowing the seed, I will now do so. Where successional displays are required, sowing may be made at intervals of about three weeks from May till July. Flowers will then be had from early spring till well into the summer. As a rule we make one sowing suffice; this is done about the third week in May. Pans are used for the seeds, which are scattered thinly, and as evenly as possible over the surface of the prepared soil, as mentioned in the previous article. The very minuteness of the seed necessitates special care being taken in its distribution, and a small pinch between the thumb and finger is generally sufficient for a good sized pan. This method of sowing is, I think, better than shaking the seed out of the packet over the surface.—ASPIRANT.

SWEET PEAS FROM CUTTINGS.

ON perusing "P. R.'s" notes on Sweet Peas, I thought it might interest readers of the Young Gardeners' Domain, to whom it may be unknown, that these will root readily from cuttings. A gardener friend of mine, who has to manage his employer's garden on very economical lines financially, invariably has a grand display of the newer varieties, and this is how he manages it. He can only afford to purchase one or two packets of seed annually, but these he sows early, and when about 5 or 6 inches high takes the tops off. These root readily under a hand-light.

This process may be repeated with the cuttings, if need be—i.e., the tops can be again removed when rooted and utilised in the same way. Besides the advantage of getting a good stock of a favourite variety during one season, which would otherwise be impossible from one packet of seed (for they rarely contain more than twenty seeds at most), it induces a bushy branching habit in those clumps from which cuttings are taken. It also prolongs the season of flowering, for it naturally follows that cuttings rooted at different periods come into flower also at various times.

My friend grows his Sweet Peas in clumps, each clump a distinct variety. This, to my mind, is a much more effective system than planting in rows. A very fine effect can be produced by planting these clumps at the back of a herbaceous border—say, at a distance of 5 feet from clump to clump, or wherever there is space amongst the other occupants of the border. Care must be taken that no very tall growing plant is immediately in front of the clump, or the effect will be spoilt. If white or very light varieties are planted about every third clump, these seem to intensify and throw into bold relief the darker kinds.—S. X.

CAULIFLOWER AND BROCCOLI.

To maintain a continuous supply of Cauliflower and Broccoli throughout the year is a work of no small importance, and demands both forethought and skill on the part of the cultivator. The seasons have much to do with the success or failure of these vegetables, perhaps more so than any other; if the summer be abnormally hot and dry, many of the plants will go blind, while during severe winters several are killed outright, especially in exposed situations. They delight in a deep, rich, and moist, yet firm rooting medium, and in accordance with these principles the land should be prepared. The distance apart at which they must be planted will vary according to the variety. For Cauliflowers from 2 to 3 feet in the row, and 2 feet 6 inches to 3 feet 6 inches between the rows will be a safe distance; while for Broccoli from 18 to 30 inches apart each way will suffice.

To supply the demand after the last of the Broccoli have disappeared, seeds of Early London, Early Erfurt, and Walcheren Cauliflowers should be sown thinly about the second week in August, making a second sowing ten days later, as from this the plants are often better than those sown earlier. If the weather be very dry the ground should be well watered before sowing the seed, and afterwards be kept moist by frequent evening waterings, and occasionally dusting the young plants while wet with soot and lime is advantageous. During the month of October they should be transplanted into frames, where they will remain until March or April, when they may be put out into their final positions. If it be desired to plant them permanently in autumn, the required number of plants should, when large enough, be pricked out into nursery beds, watering occasionally if the weather be dry, and good strong plants will be the result. About the third week in October plant them five or six together, and put hand-lights over them; give plenty of air on all favourable occasions, both to these and those in the frames, removing the lights altogether when the weather permits. Thin them out in April, or earlier if necessary, leaving only sufficient plants to occupy the available space without overcrowding; heads from plants thus treated will precede those wintered in frames.

For successional plants, seeds of Walcheren, Autumn Giant, and Stadtholder may be sown in heat during February, transplanted on to hotbeds or into boxes, and carefully hardened for planting during April and May. Later sowings can be made outside and planted from the seed bed as required. Should the weather be very dry they must receive copious waterings, earthing them deeply as the plants become large enough. During the late autumn months many Cauliflowers are rendered useless by cold and wet; this may be obviated to some extent by bending several of the leaves over them, but if old lights with a few boards are available, a temporary frame can soon be made in which they can be more effectually protected from the effects of the weather. Tie the leaves together, lift the plants with a ball of soil, place them closely

together in the frame in an upright position in trenches sufficiently deep to bury the roots, afford a watering, and they will keep three weeks or more in good condition, and a plentiful supply will be maintained until late into the autumn.

The treatment of Broccoli is very similar to that of the Cauliflower, the chief difference being in the time of sowing. To have heads ready for cutting in autumn seeds of Grange's Autumn, Walcheren, and Veitch's Self-protecting may be sown about the end of March in a sheltered situation, transplanting from the seed beds to the permanent positions. For successional crops seeds may be sown until the second week in May. Varieties for this purpose are Snow's Winter White, Cooling's Matchless, and Leamington for winter use; while for late spring Catell's Ellipse, Model, and Late Queen may be used. The later crops should be planted on land that has been cleared of early Potatoes, Peas, or Strawberries, making it firm before the plants are inserted. If dry weather prevail they should have abundance of water, or satisfactory progress will not be made. The ground between the plants must be stirred with the hoe to keep down weeds and to retain moisture.

At the approach of winter some recommend the practice of "heeling-in" with their heads towards the north, while others prefer to put stable litter about the plants. From the former method little or no advantage appears to be gained, while the latter gives the garden a decidedly untidy appearance, though it affords the best protection, and the plants are not checked in growth, as in the process of heeling-in. In ordinary winters the majority of the plants will pass through favourably, no protection being required at all. They should, however, be examined occasionally, and heads sufficiently large ought to be cut, or the plant pulled up and hung head downwards in a cool place, out of the reach of frost, until required for use.—S. P.



HARDY FRUIT GARDEN.

Preparations for Planting Fruit Trees.—One of the most important matters prior to planting is the selection of the trees. Good fruit trees and bushes of reliable varieties cannot be obtained without paying a fair price for them. So-called cheap trees are not to be depended upon, either as to variety or in making growths of a satisfactory character after planting. When this is the case it is disappointing, but it may be avoided by dealing with a first-class firm, who can only afford to grow and sell the best. The grounds of the nursery should be visited at the present time, the trees selected in their growing position with instructions to carefully lift, pack, and deliver them safely in readiness for early November planting. When received the cultivator should supplement the care and attention of the nurseryman by laying-in the trees in damp soil until the moment of planting. The present month ought to be largely devoted to preparing the positions for planting, as it is highly desirable that the trees and bushes have a fair start.

Draining.—The best positions for fruit trees are where the soil is naturally well drained, but in some cases this is not attainable. Wherever water is liable to collect within 2 feet of the surface this is obviously not suitable, as the extra moisture would cause strong, sappy, unfruitful growth. The best method of draining a large plot of ground is to lay cylinder tiles of 2-inch bore in rows 15 to 18 feet apart and 3 feet deep. They must have an outlet to a main drain, which should empty itself at the lowest point of the ground. The drains ought to have a proper fall, so that water runs readily through them. Good drainage may be effected in cases where the subsoil is not too wet by planting on slightly raised mounds, or specially draining the positions where the trees are to be planted by excavating the soil 3 feet deep, and laying down a foot of stones or rubble; on this a layer of turf, which will prevent the soil working down among the drainage.

Digging and Trenching.—The ground must be thoroughly well cultivated before any attempt is made to plant. The good soil in most gardens is invariably that nearest the surface, and it is in this well-worked medium that the trees should be planted. It is important, also, that the soil below be moved and broken up. This increases the area from which food and moisture may be drawn whenever the surface soil becomes deficient, and does not meet the requirements of the trees. It is obvious, then, that ordinary digging one spade deep is scarcely sufficient, especially if the subsoil has not hitherto been broken up. The best manner of effecting the moving of the soil two spits deep is to bastard trench the ground. A trench 2 feet deep and 2 feet wide should be taken out and wheeled to the point where it is intended to finish. Dig or fork up the bottom. Before filling in further mark out the next trench, and take out the top spit. The next spit may then be thrown into the bottom of the first, where it will occupy a similar position. The top spit of the third trench then comes in to complete the first. The bottom of every trench ought to be broken up, a little manure added and incorporated, which will assist in improving a poor and hungry subsoil.

Manuring.—Digging in a quantity of rich manure is not advisable when contemplating planting fruit trees. It will cause a soft and rapid

growth, which is not conducive to fruitfulness, but the reverse. An ordinary fertile loamy soil is quite rich enough for the early growth of most fruit trees, and when the trees need additional support surface dressings of manure will supply it. Wood ashes or burnt refuse are a good addition to the soil. They improve heavy ground by lightening it and making it more easily workable, and light soil by adding to it mineral matter in which it may be deficient. Stone fruits require calcareous matter, and when the soil is lacking in this a dressing of crushed mortar rubbish or lime scraps is of great benefit.

Grubbing up Old Trees.—Old trees of good varieties are valuable, and if they are healthy and do not bear fruit they may probably be induced to do so by thinning out the branches, cleansing the stems, and supporting the roots. Some trees, however, are past renovation, and are not worth the time and trouble it would be necessary to spend upon them. These should be cut down, the roots grubbed up, and the whole burnt. All trees enfeebled through canker or American blight are better discarded, and where they are rendered useless by growing in too close proximity to large deciduous trees it is evident that they cumber the ground. The ordinary methods of renovation cannot be applied to these satisfactorily, because the most essential things of all are taken away—food and moisture from the roots, and light from the branches. Worn-out bushes of Gooseberries and Currants ought to be grubbed up and burnt. Young trees will pay better, but if planted on the same site deep and thorough cultivation must cease before planting. Moderate manuring may be practised in preparing such soil, especially as these fruits may be planted in richer soil than the majority of fruit trees.

FRUIT FORCING.

Cucumbers.—Place out the latest plants which are to afford a supply of fruit about the new year on ridges or hillocks, training with a single stem to the trellis, up which they may be allowed to advance about two-thirds, when the lead may be pinched. Those not having the convenience of a Cucumber house may secure fair supplies of winter fruit by growing the plants in stoves, fruiting Pine houses, or other heated structures. Plants in bearing should not be overcropped, or the fruit allowed to remain longer than it is fit to cut, removing all deformed fruit in a young state. Maintain a night temperature of 70°, 5° less in the morning, 75° by day up to 85° with sun heat, admitting a little air at the top of the house at every favourable opportunity. The evaporation troughs may be charged with liquid manure, and the floor damped with water about 8 A.M. and 4 P.M., dispensing with the syringe. Reduce the supply of water at the roots, but not so much as to cause flagging. A few sweetened horse-droppings scattered on the bed from time to time will benefit the plants through the waterings and the ammonia given off. Keep the foliage thinly disposed and free from insect pests, also the glass clean to secure thoroughly solidified growths.

Peaches and Nectarines.—*Earliest House.*—The trees are now leafless, and should be overhauled for pruning, dressing, and re-adjusting of the growths. Where due regard has been paid to the disbudding, preventing overcrowding, and removing the useless growths after the fruits were gathered, very little pruning will be required now. Weakly and unpromising branches, however, may often be advantageously cut out in favour of sturdy, short-jointed growths, and unduly long shoots be shortened so as to originate vigorous ones from them at the proper place for covering the trellis evenly with bearing wood. The house should be thoroughly cleansed, woodwork with carbolic or other disinfecting soap, water, and brush, glass with clear water, and the walls limewashed, adding a handful of flowers of sulphur to a pailful, the sulphur being first formed into a paste with a little skim milk. The trees also should be washed with an insecticide, those advertised being excellent for the purpose, only carefully follow the instructions, applying with a brush and taking care not to dislocate the buds.

Likewise the border needs attention, removing the mulching or loose surface soil, pointing over very lightly, and supplying fresh loam, but not covering the roots more than 2 or 3 inches. About a quart of some advertised fertiliser may be mixed advantageously with every barrowload of the loam, and its manurial elements will get diffused through the soil by rains or watering, and be available as food when the trees start into growth. The root-lights may remain off until late November or the approach of severe weather, frost and snow sometimes interfering with their replacement. Both inside and outside borders are better for whatever rains may fall up to starting, provided the drainage be thoroughly effective; and no covering on the outside border is necessary beyond a light one to prevent the soil becoming frozen, for no roots can absorb moisture or nutriment from it in that state.

Trees Started at the New Year.—The foliage is mainly off, but some leaves cling to the latest growths with remarkable tenacity, an indication that the wood is not there so well matured as occurs with forced trees generally, yet the buds are sufficiently plumped, and there is nothing to fear from immaturity, indeed there is more danger from over or premature ripening in the buds falling than from somewhat late retention of the foliage. Clear away the leaves as they fall, and when all are down, lose no time in having the house thoroughly cleaned, the trees pruned and dressed and tied to the trellis, top-dressing the border as before advised, unless the trees have to be lifted or root-pruned, when it will not, of course, be necessary. If the lights are movable they may be removed, or, if already off, they need not be replaced till December, otherwise afford all the air possible, and keep the inside border in a properly moist condition.

Succession Houses.—Though there is some green foliage, the growths in these are quite firm, and the buds quite prominent enough in the axils of the leaves. Too much air cannot be admitted, but it is necessary to

reduce the ventilation on cold nights, or close the house in case of severe frost, which may cause the sudden collapse of the foliage, and prejudicially affect the buds. Any trees that are unsatisfactory should be root-pruned or lifted as soon as the foliage is sufficiently matured—that is, gives indications of falling. In the case of young trees making a late growth it will be advisable to take out a trench at a distance from the stem equal to about one-third the spread of the branches, detaching all the roots, leaving the trench open for ten days or a fortnight, when it may be filled firmly. This checks growth, and contributes to the maturity of the wood and buds. It also encourages the formation of fresh rootlets, insuring a fibrous formation, which will decidedly benefit the setting and stoning of the fruit, as the tree is better nourished provided the nutriment is present in the soil. Care must be taken not to allow the soil to become dry in the part undisturbed.

Late Houses.—The wood which has borne fruit should be cut out and thinned where too crowded. The structure may be kept rather close by day when there is sun, throwing the house open at night, which will assist the wood to ripen and concentrate the tree's energies on the buds. In cold localities a gentle warmth in the hot-water pipes in dull weather will facilitate the ripening process, but it must be accompanied by a free circulation of air.



REVIEW OF THE PAST SEASON.

AT this season, when all is quiet in the apiary and bees have settled in their winter quarters, it is interesting to look backwards and see how far the past summer has come up to our early expectations. Being in touch with bee-keepers in various parts of the country we are enabled to form a fairly true estimate of what the honey harvest has been. It is gratifying to report a great improvement on the past three years. In some respects it has been disappointing, the causes for which we will endeavour to explain. But first we would note how evenly distributed the honey crop has been throughout the country, as in no single instance has a failure been reported. In a general way it cannot be classed as a first-class honey year, but nine out of every ten bee-keepers will say they have had a fair season. When this is the case there is not much to complain of. There is a great amount of honey on sale in most of the provincial towns. It is on the whole of good quality, in marked contrast to that obtained in 1898.

Bees wintered fairly well, though there were many losses from shortness of stores and aged queens dying in early spring. Stocks that were headed by young queens, and were strong in bees, which were well supplied with stores the previous autumn, were remarkably strong in April. The weather being so mild breeding commenced earlier than usual. Throughout May cold east winds prevailed, during which time weak stocks made little headway and strong colonies did not increase in weight. At last a welcome change in the weather caused activity throughout the apiary. The first fortnight of June was warm and bright, and bee-keepers in favoured localities reaped a rich harvest from the field Beans that were fast passing out of bloom, and the White Clover which was earlier than usual.

The soil about our apiary is cold and heavy, consequently vegetation is late, and the White Clover was not fully in bloom till the third week in June. But on sandy land not six miles distant White Clover was a mass of flower at least ten days earlier, and as the drought had not then affected the pastures to any serious extent in the Midland counties, bees in those districts filled the supers at a rapid rate.

HONEY FROM THE HEATHER.

It is many years since such a good harvest of honey from the Heather was recorded as during the present season. From the Yorkshire wolds, the Derbyshire moors, and the extensive moors in Scotland, which are noted for the high-class Heather honey, reports are to hand of a satisfactory yield. The Heather bloomed profusely throughout the various districts, and during the whole time it was in flower scarcely a shower of rain fell. Bright sunshine and a high temperature enabled the bees to store a surplus at a rapid rate. In many instances a second crate of sections, or shallow frames, had to be placed on the hives before they had been on the moors many days. In addition to the supers being filled, the frames in the body of the majority of the hives were filled with slabs of sealed stores, thus providing ample food for the bees till outdoor supplies are plentiful next spring.

Bee-keepers who are able to send their bees to the Heather after the usual harvest of honey is over from other sources have a great advantage over those not so favourably situated. In an ordinary season they will obtain sufficient stores for wintering on, and there is always a chance should the weather be favourable, as in the past season, to derive a rich harvest from that source.

What are the lessons to be learnt from the past season? Which

system of bee management has given the greatest yield of honey? Has run honey, or sections, or honey in the comb in some other form been the most profitable? Has honey deteriorated in value? and have the bees been more troublesome than usual in swarming when they were not wanted? These subjects will be treated in future notes. We have consolation in knowing that bee-keeping is making headway, and that 1899 will be remembered as the year when a fair average crop of honey of first-rate quality was obtained.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

"Bluebell" (*J. C. S.*).—This name is given popularly to *Scilla nutans* in some parts of the country, and in others it is known as "Harebell" and Wild Hyacinth. It occupies very large areas in some districts usually wooded, and is well worth introducing into the wilder parts of pleasure grounds. There are several garden forms. *Grandiflora alba*, large white; *rosea*, rose; *rubra*, red flowered; are all worthy of a place in gardens.

Convallaria prolifera (*Idem*).—There is a pink Lily of the Valley—namely, *Convallaria majalis rosea*, with pale rose-coloured flowers, which may probably be the same as *C. prolifera*, or a form of it, with a freer flowering habit. The pink or rose-coloured Lily of the Valley does not flower nearly so freely with us as the species, the seeds not being strong enough. It appears to require a richer, but firm soil.

Repotting *Cinerarias* (*R. L.*).—The plants now in 6-inch pots may be shifted into 8-inch provided they are not much root-bound, and are not advanced to any great extent for flowering. We should, however, confine this to the most vigorous and promising plants, the 6-inch size being sufficient for those of lesser proportions. We have repotted as late as February, but these were late plants. They will not require any feeding, the soil being good, during the winter, only keep properly supplied with water and rather cool, a temperature of 40° to 45° being suitable. They also prefer a moderately moist atmosphere, such as results from standing in a bed of ashes or gravel. The greenhouse is the proper place for them during the winter, keeping near the glass and ventilating freely on all favourable occasions. Supply liquid manure from the time the flower heads are formed until they open.

Is Ferric of Alum a Chemical Used in the Purification of Sewage Injurious to Vegetables? (*H. H.*).—That is your question. By "ferric of alum" we presume you mean chloride of iron, which remains in the "mother-liquor" in the preparation of alum from shale. This, after being used for the purification of sewage, has no injurious effect on vegetation, the crops being often very luxuriant on sewage farms irrigated by the effluents, as seen also in Watercress beds below some sewage works. The water sometimes contains two and even three grains of sulphate of iron per gallon, and has a beneficial influence on vegetable growth. Our answer to your other query: Is sewage sludge useful in gardens when being treated with the above chemical and lime? must be in the affirmative. Such sludge, pressed and dried, is used as a fertiliser by farmers and market gardeners. The sludge itself may be spread on the land, and when sufficiently dried ploughed or dug in, but is in that form so unmanageable that it is formed into cakes by compression, and there dried and hardened for transit.

Galls on Oak (*Amateur*).—The fresh growths of young Oak trees are frequently tipped with galls (so called) of a gall midge (*Cecidomyia quercus*), the female laying her eggs in the terminal bud of a twig, the larvæ hatch, and the result of their operations is the formation of a gall, which bears a strong resemblance to a cone in its form and in the overlapping of the leaves of which it is composed. Among the leaves of the cone the larvæ of the midge may be found. The galls are usually solitary, though two, or even three, may be found side by side at the tips of the twigs, the terminal buds of which they destroy. There were no larvæ in the cone, therefore we are unable to say positively whether the cone was due to the gall midge or not.

Maggots in Palm Roots (*F. F.*).—This is the grub or larva in an early stage of one of the destructive weevils of the genus *Otiorhynchus*, probably *O. tenebrioides*. Like its brethren, it lurks at the roots of a number of plants growing on borders or in pots, feeding from autumn till spring. Where it occurs the roots need a thorough examination. Dressing them with lime or soot has been found successful. The soil may also be watered with hellebore tea, which is fatal to them, also lemon oil, and diluted carbolic acid has been tried; but the latter needs caution. They defy many of the insect killers. During the summer the beetles appear on the branches of fruit trees at dusk, and may be shaken off into trays or cloths. Roasting the soil, then moistening it prior to use, is an excellent preventive, catching the weevils better.

Training Roses (*S. J.*).—If you train all the stems as shown in your sketch you will soon have the lower part of the wall destitute of foliage, as many of the lower buds will remain dormant through the sap rushing past them into the growths above. Four inches apart is insufficient; it might answer for a year or two, but not for long. We should cut out every alternate stem to a good bud near the base; this would at once give the others more room and insure fresh growths for furnishing the lower part of the wall. We understand that the Roses have been established in their positions for at least a year; if they have been recently dug from the ground and planted, all the stems should be shortened considerably for insuring strong growth the first year. Spring is the best time for pruning, after the sap has commenced moving.

Apple Maltster (*R. C. A.*).—This Apple is thus described by Dr. Hogg in the *Fruit Manual*, and you can make comparisons with your fruit. Fruit, below medium size, 2½ inches wide, and 2½ inches high; roundish and flattened, with prominent angles, which terminate in bold ridges round the eye. Skin, smooth, deep yellow when ripe, and with a few faint broken streaks of red on the shaded side, but bright red, streaked with deeper red, on the side next the sun. Eye, closed, with connivent segments, set in a deep angular basin. Stamens, median; tube, funnel-shaped. Flesh, yellow, tender, sweet, and agreeably flavoured. Cells, obovate; axile, closed, sometimes slightly open. An excellent culinary Apple; in use from October till December. The tree is a free grower, and great bearer. It is much grown in Nottinghamshire.

Apple Yorkshire Greening (*Idem*).—We give herewith Dr. Hogg's reference to this old Apple. Fruit, large, 3½ inches wide, and 2½ inches high; oblate, and slightly angular on the sides. Skin, very dark green, but where exposed to the sun tinged with dull red, which is striped with broken stripes of deeper red, very much speckled all over with rather bold grey russet specks, and over the base with traces of greyish brown russet. Eye, closed, with incurved convergent segments, set in a shallow, irregular, and plaited basin. Stamens, median; tube, conical. Stalk, short, stout, and fleshy, covered with grey down, inserted in a wide and rather shallow cavity. Flesh, greenish white, firm, crisp, and very juicy, with a brisk but pleasant acidity. Cells, obovate; abaxile. A first-rate culinary Apple; in use from October to January.

Names of Fruits.—*Notice*.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. (*N. H. P.*).—The Apple is not the "Old Catahead," but in some respects resembles it. It is the true Herefordshire Costard, a very good cooking Apple. The specimens are very fine. Yes, gardening is advancing, and you have helped it along, and may help still further if you shake off the dull sloth of which you speak, though under another name. (*E. W. D.*).—The Pears are altogether too hard to be named; see instructions. We will, however, examine them again. (*A. W.*).—Comte de Lamy. (*D. W.*).—1, abnormal, resembles Ecklinville Seedling; 2, Gascoyne's Seedling, very pale; 3, Manks Codlin; 4, Scarlet Pearmain; 5, Bramley's Seedling; 6, unknown. (*E. M. W.*).—Kingston Black. (*E. S. W.*).—Autumn Nellis. (*R. C. A.*).—We have examined

the Apples both externally and internally, and have no doubt that the fruit named by the late Dr. Hogg is the true Maltster, the one you assume to be Maltster is a fine specimen of Yorkshire Greening; see descriptions on page 324. (W. H.).—The red Apple is Court Pendu Plat; shoots should have been sent with the Plum, it resembles Winesour.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (R. S.).—1, *Acer colchicum*; 2, *Crataegus prunifolia*; 3, *C. mollis*. (O. F.).—*Amaranthus hypochondriacus*, commonly known as Prince's Feather. (J. F. C.).—*Escallonia macrantha*, excellently coloured, the leaves vary considerably in size.

TRADE CATALOGUES RECEIVED.

H. Cannell & Sons, Swanley.—*Autumn Catalogue*.
J. Looymans & Zonen, Oudenbosch, Holland.—*Trees, &c.*
Paul & Son, Old Nurseries, Cheshunt.—*Roses*.
F. R. Pierson Co., Tarrytown-on-Hudson, New York.—*Bulbs*.
W. Rumsey, Joyning's Nurseries, Waltham Cross.—*Roses*.
J. Walters, Mount Radford Nurseries, Exeter.—*Roses, Fruit Trees, and Shrubs*.

COVENT GARDEN MARKET.—OCTOBER 11TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	2 0	3 0	Nectarines, per doz.	3 0	6 0
Cobnuts, per 100 lb.	70 0	0 0	Peaches, per doz.	3 0	6 0
Damsons, per 100 lb.	4 0	5 0	Pears, Californian, case...	6 0	9 0
Figs, green, per doz.	1 0	3 0	Pines, St. Michael's, each	1 0	6 0
Grapes, black, per 100 lb.	0 6	8 0	Plums, Prune, per sieve...	6 6	0 0
Lemons, case, per 100 lb.	14 0	20 0	" Californian, case...	4 0	8 0
Melons, per 100 lb.	0 6	1 6	Walnuts, fresh, bushel	20 0	0 0
" Rock, per 100 lb.	1 9	2 6			

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	1 0	2 0	Leeks, bunch	0 8	0 0
Aubergine, per doz.	1 6	2 0	Lettuce, doz.	1 8	2 0
Beans, per sieve	2 6	3 6	Mushrooms, lb.	0 2½	0 6
" Scarlet, sieve	2 6	4 0	Mustard and Cress, punnet	0 2	0 0
Beet, Red, doz.	0 6	0 0	Onions, bag, about 1 cwt.	4 0	4 6
Cabbages, per tally	7 0	0 0	Parsley, doz. bunches	2 0	4 0
Carrots, per doz.	2 0	8 0	Potatoes, cwt.	2 0	5 6
Cauliflowers, doz.	2 0	3 0	Shallots, lb.	0 8	0 0
Celery, new, per bundle	1 0	1 3	Spinach, per bushel	2 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	5 0
Endive, doz.	1 6	2 0	Turnips, bunch	0 3	0 4
Herbs, bunch	0 2	0 0	Vegetable Marrows, doz.	1 0	1 6

Trade very quiet.

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums, per 100 lb.	4 0	6 0	Lilium Harrisii, 12 blooms	5 0	5 6
Asparagus, Fern, bunch	2 0	2 6	" lanceifolium album	2 6	3 6
Carnations, 12 blooms	2 6	3 6	" rubrum	2 6	3 6
Cattleyas, per doz.	12 0	18 0	" longiflorum, 12 blooms	6 0	8 0
Chrysanthemums, white			Maidenhair Fern, doz.		
doz. blooms	6 0	9 0	bunches	6 0	8 0
" yellow doz. blooms	5 0	8 0	Marguerites, doz. bunches	3 0	4 0
" bunches var.	0 6	1 6	Mignonette, doz. bunches	4 0	6 0
Eucharis, doz.	4 0	6 0	Odontoglossums	5 0	7 6
Gardenias, doz.	8 0	5 0	Pelargoniums, doz. bunches	8 0	12 0
Geranium, scarlet, doz.			Roses (indoor), doz.	6 0	8 0
bunches	6 0	9 0	" Red, doz.	4 0	6 0
Lily of the Valley, 12			" Tea, white, doz.	2 6	5 0
sprays	15 0	18 0	" Yellow, doz. (Perles)	4 6	6 6
			Smilax, bunch	3 0	4 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	8 6	Ficus elastica, each	1 6	7 6
Aspidistra, doz.	18 0	26 0	Foliage plants, var., each	1 0	5 0
Aspidistra, specimen	15 0	20 0	Lilium Harrisii, doz.	18 0	24 0
Chrysanthemums, per doz.	6 0	8 0	Lilium lanceifolium album	80 0	40 0
Crotons, doz.	18 0	50 0	" rubrum	80 0	40 0
Dracena, var., doz.	12 0	30 0	Lycopodiums, doz.	3 0	6 0
Dracena viridis, doz.	9 0	18 0	Marguerite Daisy, doz.	8 0	10 0
Erica various, doz.	80 0	60 0	Myrtles, doz.	6 0	9 0
Euonymus, var., doz.	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz.	4 0	18 0	" specimens	21 0	68 0
Ferns, var., doz.	4 0	18 0	Pelargoniums, scarlet, doz.	6 0	8 0
" small, 100	4 0	8 0	Physalis, per pot	2 0	4 0



MENTAL WORK.

Of physical work the farmer has enough and to spare. As in a house, so on a farm, work is never done. Mills and factories, shops and foundries, offices and warehouses, can be closed, and those employed go home to a well earned rest, but farmers can rarely leave home, their presence is always necessary, and some at least of the men must sleep on the premises to be ready for any emergency during the long dark hours. Sudden sickness seems to come on more frequently during the night, and those who attend to live stock can testify to the numberless hours when they have sat and watched when all the world was sleeping round them.

The working day begins early. Horses must be fed and groomed ere the day labourer makes his appearance, and the lowing of the oxen and the grunting of the pigs are pretty strong intimations to the yard man that he had better "shake off dull sloth." If the work begins early, in the winter months it also ends early, and there are several hours of the evening that might be better employed than in dozing round the kitchen fire and reading last week's local paper.

"Times is and times was," and we need not look back very far to those times when few, if any, of the agricultural labourers could read or even write their own names. There was literally nothing to take them beyond themselves and their daily rounds of monotonous work. Papers were dear and comparatively scarce, badly printed, and containing little save the baldest statement of news. The labourer's world was bounded by his parish, the parson and squire the greatest men he knew, and the land beyond the radius of twenty miles might have been Central Africa.

Hand tillages were only faintly appreciated, bones and lime were the principal stand-bys, but why their application was efficacious—well, that was quite beyond his powers of understanding. Because he did not understand, new fangled ideas about change of seed seemed a very folly, and the system that preferred constant crops instead of seasons of fallow was simple madness. Why should not any sire be used? Why try and supply by wise mating qualities lacking in the dam?

It was all a policy of penny wise, and it has taken years of hammering at facts to get Hodge to understand the why and the wherefore of many a new agricultural process. As a wise old man said, we are as children playing with pebbles on the vast shores of the sea of knowledge. A lifetime is all too short to gain any save the slightest inkling of the workings of that mighty Providence that surrounds our every footstep.

The masters are only just grasping the fact of the wonderful fields of knowledge that are open for their study. One great society takes as its motto, "Practice with science," and nowadays the science must come in or we are undone. The scientific training cannot begin too early. The village schools must sow the seed; poor masters! we put much on their shoulders, but what can we do? Truths learned in youth are not easily forgotten, and processes well known in the field will be surrounded with fresh interests if the lads know the why and the wherefore.

In the teaching there will be mistakes at first—too much will be attempted—the mind has to be educated to learn, coaxed as it were over the rough, stony parts, and allured by charm of voice and manner. Any subject may gain or lose by the manner in which it is handled. What the school has to do is to impart a taste for information; it must wake the dormant mind. The interested lad will not close his books as the school door shuts behind him; he has tasted of the tree of knowledge, and repairs again and again for fresh feasts.

Happily these feasts are spread, the willing guest is only wanting. There are now, within reach of all, lectures and classes, books and

pamphlets without count, and there is no reason that a country boy need be behind his town brother in the knowledge of the technicalities of his craft.

We argue that better facilities for education (provided it takes the right form) should keep men on the land rather than drive them off. Education has not so affected the gardening classes; taken as a body they are a most intelligent class of men. The more deeply they penetrate into Nature's mysteries the more in love they are with her. They do not leave the land, they may leave their individual gardening, but it is only to take up work in a wider sphere, and instead of a garden they will manage an estate.

What we grumble at is this—there are so many means of acquiring education, so much is being done (we are only on the threshold), classes are arranged, lectures given, text books supplied—but there is such a lack of pupils. The "ought to be" pupils are there, the ignorance is there, but there is the greatest difficulty in filling the classes or the lecture rooms. Just one or two popular lectures may "take on," but when it comes to a subject a little deep, or where the exercise of a little brain power is required, there is such a hanging back.

It is not that the evenings are filled with other work or amusement. In the villages there is not much of interest for the long nights, and we almost wonder that a feeling of curiosity, if nothing else, would tempt the young men into the well warmed and cheerfully lighted rooms.

The next generation will perhaps prove apter, more willing students, but the foundation will have to be laid in the schoolroom. We spoke of the village master as the teacher, but it would be better if there could be an itinerant band of science teachers scattered throughout the country. They would have the proper training and adaptability for the work, which the ordinary schoolmaster lacks. The children would also learn better from a fresh teacher; there would be the charm of novelty, and that goes a long way. We would like to finish with a quotation from the "Farmers' Gazette."

"To some of our readers it may appear that we are attaching too much importance to this subject of agricultural education in our elementary schools, and that the way to improve our agricultural systems is not by teaching agriculture in our primary schools, but by the establishment of central schools and colleges, specially equipped for the purpose of affording instruction in agriculture to such pupils as may decide on adopting farming as a profession." Well, this scheme would answer for the farmer's son, where a little money could be found to support the lad during his training; but what about the ruck of the village boys, who have neither time nor money to spare? It is to the schools first, and evening classes later, that we must look. There is no other way, and, properly managed, there is no better way.

We purpose at a future time to treat of the necessities and opportunities for instruction that are available for the farmer's son.

WORK ON THE HOME FARM.

We are having abundance of rain now, and could do with a dry spell for a change. The Clover lea is all ploughed for Wheat, but it wants rolling, to do which the wet weather has allowed no opportunity. All autumn fallow operations are quite at an end, and we may plough the land over as soon as convenient.

We had no idea that so much corn had been shed or necked this season until we saw the very green appearance of the worked stubbles. In some there is as good a plant as if 12 pecks per acre had been sown. This should be worth leaving to grow for another month, it would then make a nice bite for the ewes and help to economise the roots.

The soil being well soaked, the Wheat should be got in at once on rich and heavy lands; a continuance of rain might easily make such into an unsuitable seed-bed. Many farmers have already made a start. Do not forget to dress the seed before sowing; 1 lb. of ground blue vitriol will be sufficient for one quarter. It must be well dissolved in water sufficient to thoroughly damp the grain, and the latter must be tamed over three times when wetted.

Land intended for autumn planting with Cabbage will soon be required, and must be got ready if not already done. Twenty loads of good muck per acre should be spread on Wheat or Barley stubble that has been well cleaned since harvest. The land must then be ploughed with a chilled plough, 8 inches deep and 10 inches wide. The deep ploughing is necessary on account of thistles, which are very troublesome amongst field Cabbage.

The plants which should have been sown early in August may be

planted as soon as they are large enough. If dibbled in 30 inches apart one way and 15 the other there will be about 14,000 to the acre. One shilling per 1000 is a usual price for planting, and at this rate a man who employs a lad to drop the plants out for him will earn good wages.

Pastures are now very green, and there is plenty of keep, but the grass is very washy and wanting in nutritive elements. Farmers will be tempted to keep their animals out later than they should; milk cows must be kept warm, and poor food is of little use for milk production; a few hours at grass in the middle of the day will be all right, but they must be brought up when it is cold and wet, and must have hay and cotton cake, with a little pulped Carrot. Mangold must not be used until February.

FARM ANIMALS IN THE PHILIPPINES.—Cattle, goats, and sheep have been introduced from Spain, but they are not numerous. Domestic pigs and chickens are seen everywhere in the farming districts. The principal beast of burden is the caraboa, or water buffalo, which is used for ploughing rice fields as well as drawing heavy loads on sledges or on carts. Large horses are almost unknown, but there are great numbers of native ponies from 9 to 12 hands high, possessing strength and endurance far beyond their size.

FAULTY SHOEING AS A CAUSE OF LAMENESS.—Much of the lameness met with among horses is due to faulty shoeing. Of late years there has been a great improvement in the manner in which animals are shod, but, as a visit to any country smithy will disclose, there is yet much to be learned among horse-shoers regarding the proper treatment of the hoof in the preparation for the iron. When a horse once develops side-bones it can never be cured; it has been well said, "once a side-bone always a side-bone." Badly fitting shoes are a common cause of side-bones, and the horses most subject to them are heavy animals with upright pasterns.—("Farmers' Gazette.")

THE ADVANTAGE OF CRUSHING OATS.—A great waste of food frequently takes place, says a contemporary, where horses are fed with "whole" oats—i.e., with the grain in its natural condition. This is particularly so where the teeth of the animals are defective, and where the food as a result is not properly masticated. Young horses, when changing their teeth, are particularly liable to waste food in this manner, and so, too, are horses that are known as "bolters," or greedy feeders. For all animals of this description it pays well to crush or grind the oats before feeding. Some owners even go so far as to mix the oats with chopped hay in order to secure its more effective mastication, and in the absence of a grain crusher it is certainly a very excellent method of preventing waste.

POTATOES—Reports to hand from the Marshland and Isle of Axholme Potato farms show that the prospects are not altogether encouraging. Picking has commenced at most farms, and the crop is found to be of a very variable nature, and in no case is a heavy yield anticipated. The drought has affected the crop a good deal, and the tubers are not turning out so large as could be desired. Up-to-Dates are a light crop, but Giants, the other main crop of the district, are very fair. The Bruce, which was formerly much in demand, are now not grown to any great extent, but where still cultivated they have proved this year a very disappointing crop. On light lands the results are worse than on the deeper soils. So far disease has not been prevalent. The markets have opened firm, and prices have reached a slightly higher level than is normally the case, farmers holding to their stocks and showing no disposition to sell.

FENCES AND GATES.—Among some other works on the farm that are neglected in the present hard times are the fences and gates. It is the exception, rather than the rule, as it used to be, to find gates and fences in order. As for the art of hedge-cutting, why, it is dying out. Many a man takes the latter job on hand and cuts the top off the fences, but that is not the right way to make a good fence. The stronger young branches or layers should be bent down and laid in the fences, so as to strengthen the mounds. Then the older and decayed wood may be removed. Why we mention this just now is because as soon as harvest is over trimming young shoots and branches off the hedges will begin; but they ought not to be trimmed off the weak fence. They are wanted to strengthen the hedge in cutting and laying hereafter. Fences are a pretty good index to how the general farming is conducted. Besides, bad mounds lead to a lot of loss to the farmer, as straying stock soon becomes a trouble, and in straying, animals not only may and do injure themselves, but damage the crop.—("Rural World.")

WHEAT EXPERIMENTS.—Sir J. B. Lawes has issued an exhaustive statement upon the Wheat crops grown at the Rothamsted Experimental Farm this year. The continuously unmanured plot gave a produce of twelve bushels per acre, at 61½ lbs. per bushel, an amount which is slightly below the average of the preceding ten years, and also rather below that of the thirty-seven or the forty-seven years. The farmyard manure gave 42½ bushels, which is above the average of either the ten, the thirty-seven, or the forty-seven years. The mean of the three artificially manured plots is 36 bushels; the highest of the three reaching 89½ bushels. Referring to the quality of the grain as shown by the weight per bushel, it is seen that there was great uniformity among the five experiments, all showing 61 lbs. or more, and none showing 62 lbs. The unmanured and the farmyard manured produce show, however, the highest weight per bushel. The results illustrate the remarkable capability of Wheat to collect its food from what is, agriculturally speaking, exhausted soil, provided that the land is well cultivated and kept clean.

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Crocus , yellow, third size	0 6	6 0
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Iris Kämpferi , mixed, Japanese varieties	5 0	40 0
Iris Sibirica , all sorts, mixed	4 0	40 0
Montbretia crocosmiflora , orange scarlet	1 6	14 0
Narcissus , double, incomparable, primrose	1 6	14 0
Narcissus , single, van Sion, yellow trumpet	3 0	29 0
Narcissus Stella , white, yellow cup	1 4	12 6
Narcissus Bicolor , Princeps	3 6	36 0
Gladiolus Marie Lemoine , cream blotches, purple	2 0	19 2
Gladiolus Frenchleyensis , deep scarlet	2 0	20 0
Scilla Sibirica , intense blue	1 6	13 4
Hyacinthus candicans (Galtonia), white	5 0	45 10
Ellium umbellatum , large red crowns	10 0	10 0
Snowdrops Elweii , giant flowered	1 10	15 0
Tritoma uvaria (Red-hot Poker)	10 0	10 0
Lilies , in fine mixtures	10 0	90 0
Narcissus , Pheasant Eye (poeticus)	1 2	10 0
Anemone , single, The Bride, pure white	1 8	15 0
Anemone , single, in fine mixture	1 6	13 6
Ranunculus , French varieties, mixed	1 0	9 0
Ranunculus , Persian varieties, mixed	1 0	9 0
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Journal of Horticulture.

THURSDAY, OCTOBER 19, 1899.

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ROSE ANALYSIS, 1892-1899.

THE time has once more arrived when amateur growers should be thinking of sending their orders for the season to the Rose nurseries. Many omit to do this until nearly Christmas, or even later, and so lose their chance of obtaining the best plants of all the varieties they may require. Besides which, in so doing they forget what a great advantage it is to have their newly purchased treasures planted while there is yet sufficient warmth in the ground to enable them to obtain some slight hold of the soil before the winter sets in. The appearance of this analysis should therefore remind all intending planters that they cannot do better, after consulting it, than draw up their lists and send them in without further delay. In fact, my principal object in compiling these analyses, and the lists at the end giving the varieties which are most easily grown, has been to enable all classes of rosarians to select the varieties most suitable for the purpose they have in view, whether required for the exhibition table or for ordinary garden cultivation.

The past Rose season was again a backward one, and consequently has again favoured our analysis, there having been previous to last year such a long run of unusually early seasons. Unfortunately, besides being very backward, the summer of 1899 was also extremely hot and dry, which will, no doubt, to a great extent account for the indifferent way in which many choice varieties in the tables were represented at this year's exhibition.

The Roses which will allow of this being done, and they include all except a small proportion of the number tabulated, are placed in the two lists according to their average records for the last eight years, as I find from experience that this term of years gives as a rule the most comparable and satisfactory results. If a longer period be used the influence of the newer sorts as they make their way upwards in the tables has not its due weight. Then, again, if a shorter period be selected the effect of individual seasons has undue influence. The earlier records, those prior to the eight years

in question, still remain of service in tracing the previous performances of the different varieties during the full period for which I have complete records—viz., since 1886.

The annual Exhibition held by the National Rose Society at the Crystal Palace was held this year on July 1st, which is the earliest date possible under the existing arrangement of holding this Show on

the first Saturday in July. This early fixture, together with the lateness of the season, undoubtedly affected the extent of the Exhibition, which was one of the smallest the Society has held in recent years. It, moreover, favoured to a greater extent than usual the more forward districts, as well as the early flowering Roses.

Mrs. John Laing still retains the premier place in the list of Hybrid

HYBRID PERPETUALS AND HYBRID TEAS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1899 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	47.3	55	Mrs. John Laing	1887	Bennett	Rosy pink
2	37.1	46	Ulrich Brunner	1881	Levet	Cherry red
3	34.0	42	Mrs. R. G. Sharman-Crawford	1894	A. Dickson & Sons ...	Clear rosy pink
4	34.0	35	Mrs. W. J. Grant (H.T.)	1895	A. Dickson & Sons ...	Bright rosy pink
5	32.4	31	A. K. Williams	1877	Schwartz	Bright carmine red
6	31.8	40	Caroline Testout (H.T.)	1890	Pernet & Ducher	Light salmon pink
7	30.0	31	Kaiserin Augusta Victoria (H.T.)	1891	Lambert & Reiter	Cream, shaded lemon
8	29.5	30	La France (H.T.)	1867	Guillot	Silvery rose, shaded lilac
9	29.0	31	Her Majesty	1885	Bennett	Pale rose
10	28.5	35	Marquise Litta (H.T.)	1893	Pernet & Ducher	Carmine rose, brighter centre
11	27.5	21	Suzanne M. Rodocanachi	1883	Lévêque	Glowing rose
12	26.8	33	Madame Gabriel Luizet	1877	Liabaud	Light silvery pink
13	26.4	15	Marie Baumann	1863	Baumann	Soft carmine red
14	25.9	29	Gustave Piganeau	1889	Pernet & Ducher	Shaded carmine
15	25.0	27	Captain Hayward	1893	Bennett	Scarlet crimson
16	24.0	13	Alfred Colomb	1865	Lacharme	Bright carmine red
17	23.0	20	Helen Keller	1895	A. Dickson & Sons ...	Rosy cerise
18	22.3	13	Marchioness of Londonderry	1893	A. Dickson & Sons ...	Ivory white
19	21.8	15	Horace Vernet	1866	Guillot	Scarlet crimson, dark shaded
20	20.8	11	Charles Lefebvre	1861	Lacharme	Purplish crimson
21	19.8	15	Earl of Dufferin	1887	A. Dickson & Sons ...	Dark crimson, shaded maroon
22	18.5	25	Margaret Dickson	1891	A. Dickson & Sons ...	Ivory white
23	18.4	14	Dupuy Jamain	1868	Jamain	Bright cerise
24	18.1	5	Merveille de Lyon	1882	Pernet	White
25	17.6	15	Etienne Levet	1871	Levet	Carmine red
26	17.5	12	Prince Arthur	1875	B. R. Cant	Bright crimson
27	17.0	4	Duke of Wellington	1864	Granger	Bright shaded crimson
28	17.0	17	Tom Wood	1896	A. Dickson & Sons ...	Cherry red
29	16.4	24	François Michelin	1871	Levet	Deep rose, reverse silvery
30	15.9	5	Fisher Holmes	1865	E. Verdier	Shaded crimson scarlet
31	15.4	0	Baroness Rothschild	1867	Pernet	Light pink
32	14.6	12	Victor Hugo	1864	Schwartz	Dazzling crimson, shaded
32	14.6	13	Marchioness of Dufferin	1891	A. Dickson & Sons ...	Pink
34	14.4	5	Louis Van Houtte	1869	Lacharme	Deep crimson, shaded maroon
35	14.3	13	Marchioness of Downshire	1894	A. Dickson & Sons ...	Light pink, shaded rose
36	13.7	16	White Lady (H.T.)	1890	W. Paul & Son	Creamy white
37	13.4	14	Général Jacqueminot	1853	Rousselet	Bright scarlet crimson
38	13.0	13	Countess of Caledon (H.T.)	1897	A. Dickson & Sons ...	Carmine rose
39	12.8	3	Heinrich Schultheis	1882	Bennett	Pinkish rose
40	12.4	10	Comte de Raimbaud	1867	Rolland	Clear crimson
41	12.3	8	Duke of Edinburgh	1868	Paul & Son	Scarlet crimson
41	12.3	11	Lady Mary Fitzwilliam (H.T.)	1832	Bennett	Rosy flesh
43	11.9	8	Camille Bernardin	1865	Gautreau	Light crimson
44	11.8	10	E. Y. Teas	1874	E. Verdier	Bright red
45	11.4	6	Ferdinand de Lesseps	1869	E. Verdier	Shaded crimson
46	11.3	8	Marie Verdier	1877	E. Verdier	Pure rose
47	11.1	5	Dr. Andry	1864	E. Verdier	Bright crimson
48	9.8	10	Xavier Olibo	1864	Lacharme	Dark velvety crimson
49	9.6	2	Le Havre	1871	Eude	Vermillion red
50	9.5	2	Jeannie Dickson	1890	A. Dicksons & Sons...	Soft silvery rose
51	9.3	5	Duchess of Bedford	1879	Postans	Light scarlet crimson
52	9.1	10	Abel Carrière	1875	E. Verdier	Crimson maroon, shaded purple
53	8.8	6	Madame Eugène Verdier	1878	E. Verdier	Silvery rose
54	8.6	8	Duchesse de Morny	1863	E. Verdier	Silvery rose
55	8.3	3	Beauty of Waltham	1862	W. Paul & Son	Rosy crimson
56	8.1	6	Comtesse d'Oxford	1869	Guillot	Carmine violet
58	8.1	5	Duke of Teck	1880	Paul & Son	Light crimson scarlet
58	7.8	2	Reynolds Hole	1873	Paul & Son	Deep scarlet maroon
59	7.4	3	Charles Darwin	1879	Laxton	Brownish crimson
60	7.1	7	Prince Camille de Rohan	1861	E. Verdier	Crimson maroon
61	7.0	5	Star of Waltham	1875	W. Paul & Son	Carmine, shaded violet
62	6.8	4	Marie Finger	1873	Raimbaud	Light salmon rose
62	6.8	7	Marie Rady	1863	Fontaine	Brilliant red
64	6.6	3	Duke of Fife	1892	Cocker	Deep crimson scarlet
64	6.6	5	Pride of Waltham	1881	W. Paul & Son	Light salmon pink, shaded violet
66	6.5	2	Marquise de Castellane	1869	Pernet	Clear cherry rose
67	5.6	0	Countess of Rosebery	1879	Postans	Cherry carmine rose
68	5.4	3	Viscountess Folkestone (H.T.)	1886	Bennett	Creamy white, shaded flesh
69	5.1	3	Madame Victor Verdier	1863	E. Verdier	Clear light crimson

* New varieties whose positions are dependent on their records for the 1899 show only.

Perpetuals and Hybrid Teas without at present any serious rival. This fine and reliable H.P. was staged at the last Crystal Palace exhibition in no fewer than fifty-five prize stands, or in a greater number than at any previous show, except that of 1897, when it was about as numerously staged. Of the other established sorts which were shown more frequently than usual, may be mentioned Ulrich Brunner, Caroline Testout, Marquise Litta, Madame Gabriel Luizet, Gustave Piganeau, Margaret Dickson, and François Michelon.

It will here be noticed that none of the deep crimson or carmine Hybrid Perpetuals find a place in the above statement. Consequently we may expect to find the Roses having these deep and glowing tints well to the fore among the varieties which were this year much below their average form. Indeed, the scarcity of these crimson H.P.'s was a very noteworthy feature of the Society's last exhibition. For instance, the following varieties have never before in the fourteen years been as sparsely shown—Marie Baumann, Charles Lefebvre, Duke of Wellington, Fisher Holmes, Dr. Andry, Duchess of Bedford, and Beauty of Waltham; while Alfred Colomb, Prince Arthur, Louis Van Houtte, and Ferdinand de Lesseps have only once before been as seldom staged. To complete the list, Horace Vernet was never in such poor form since 1891, while Earl of Dufferin and Duke of Edinburgh have also seldom been as indifferently represented. Other coloured varieties, such as Suzanne M. Rodocanachi, Marchioness of Londonderry, Merveille de Lyon, Baroness Rothschild, and Heinrich Schultheis may be likewise placed in the same black list, but then most of these are late flowering kinds.

There are six Roses in the table of Hybrid Perpetuals and Hybrid Teas which are five or less years old. Strangely enough all of them are of British origin, and were sent out by the same raisers, Messrs. A. Dickson & Sons, Newtownards, Ireland. The records of some of these new Roses are little short of marvellous. For instance, Mrs. R. G. Sharman-Crawford, which was only sent out by this Irish firm in 1894, already stands third on the list, having risen four difficult places since last year. Then in the same position at No. 3 we find

Mrs. W. J. Grant, a still newer one, for it was first distributed in England a year later. Helen Keller, also distributed in 1895, was not quite so frequently staged as at the previous exhibition, but nevertheless still holds a very good place at No. 17. Next comes Marchioness of Downshire (No. 35), an 1894 variety which was also not quite as well represented as last year. On the other hand Tom Wood, only sent out three years ago, has greatly improved its position—rising from No. 49 to No. 27. The remaining new variety is Countess of Caledon, distributed in 1897, which is already to be found at No. 38. No doubt some of the above Roses, being early flowering sorts, have been much favoured the last two years by the late seasons and the early dates at which the Society's metropolitan shows were held; but to have sent out the only recent Roses which secure places in the table, and for two of the six varieties to have very nearly risen to the head of the list, a third being among the best twenty-four, is a performance that has never before been equalled by any other raiser, British or foreign.

A glance down the table at the dates of the best varieties on it will at once show that there is considerable vitality in this section. Take, for example, the first ten Roses on the list; the average age of half that number will be found to be only six years. Now it will be readily understood that such varieties as these must have been in recent years very largely grown in order to enable them to take up the prominent positions they occupy in so short a time. A great deal of the advances referred to can be traced to that comparatively new departure—the Hybrid Teas. For although there are as yet only nine of these H.T.'s on the list, more than half that number have already obtained places among the leading twelve varieties. No doubt one great reason for the present popularity of this new break is their free-flowering character, whereas many of the Hybrid Perpetuals yield an indifferent crop of flowers in the autumn, and some, for all practical purposes, no second flowers at all.

Directing now our attention to that very distinct section, the Teas and Noisettes, and to the table devoted to them, it will be noted that

TEAS AND NOISETTES.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1899 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	39.9	40	The Bride	1885	May	White, tinged lemon
2	39.6	39	Catherine Mermet	1869	Guillot	Light rosy flesh
3	34.8	34	Comtesse de Nadaillac	1871	Guillot	Peach, shaded apricot
4	32.9	31	Innocente Pirola	1878	Madame Ducher	Creamy white
5	30.8	42	Maman Cochet	1893	Cochet	Deep flesh, suffused bright rose
6	29.6	25	Madame Cusin	1881	Guillot	Violet rose, yellow base
7	29.4	38	Souvenir de S. A. Prince	1889	Prince	Pure white
8	25.7	19	Madame Hoste	1887	Guillot	Pale lemon yellow
9	25.4	26	Souvenir d'Elise Vardon	1854	Marest	Cream, tinted rose
10	25.3	16	Marie Van Houtte	1871	Ducher	Lemon yellow, edged rose
11	24.9	24	Souvenir d'un Ami	1846	Belot Defougère	Pale rose
12	24.5	33	Maréchal Niel (N.)	1864	Pradel	Deep bright golden yellow
13	23.8	30	Madame de Watteville	1883	Guillot	Cream, bordered rose
14	22.1	13	Ernest Metz	1888	Guillot	Salmon tinted rose
15	21.8	14	Honourable Edith Gifford	1882	Guillot	White, centre flesh
16	18.8	16	Niphotos	1844	Bougère	White
17	18.7	17	Medea	1891	W. Paul & Son	Lemon yellow
18	17.8	13	Caroline Kuster (N.)	1872	Pernet	Lemon yellow
19	16.0	16	Muriel Grahame	1896	A. Dickson & Sons	Pale cream, flushed rose
20	15.7	24	Bridesmaid	1893	May	Bright pink
21	15.6	6	Ethel Brownlow	1887	A. Dickson & Sons	Rosy flesh, shaded yellow
22	15.4	12	Anna Olivier	1872	Ducher	Pale buff, flushed
23	14.6	2	Francisca Krüger	1879	Nabonnand	Coppery yellow, shaded peach
24	14.1	13	Princess of Wales	1882	Bennett	Rosy yellow
25	13.5	6	Jean Ducher	1874	Madame Ducher	Salmon yellow, shaded peach
26	11.1	30	Cleopatra	1889	Bennett	Creamy flesh, shaded rose
27	10.6	2	Madame Bravy	1848	Guillot	White, flushed pale pink
28	10.0	4	Rubens	1859	Robert	White, shaded creamy rose
29	9.5	13	Golden Gate	1892	Dingee & Conard	Creamy white, tinted rose
30	7.3	5	Etoile de Lyon	1881	Guillot	Deep lemon
31	5.8	2	Madame Lambard	1877	Lacharme	Salmon shaded rose

* A new variety, whose position is dependent on its record for the 1899 show only.

The Bride, for the first time, stands at the head of the list. It has, however, at present only a slight lead of the variety from which it sported about fifteen years ago,—Catherine Mermet, for twelve consecutive years the premier flower. Were the Catherine Mermet family to be taken away from it, what a sad series of blanks would there be in the table, for no other varieties in the same class of Rose are quite as perfectly formed or as refined. It would mean the removal of such choice varieties as The Bride, Catherine Mermet, Bridesmaid, and Muriel Grahame. None of these varieties is what may be termed strong growers, but, on the other hand, they are one and all indispensable to the exhibitor, as there are no other Roses in the same section which bear such a large proportion of well-formed flowers.

Of the older varieties on the list which were unusually well shown this year should be mentioned Souvenir de S. A. Prince, which has only once before been as often staged; Souvenir d'Elise Vardon, and Madame de Watteville, which were in better form than for six years and eight years past respectively. This was, moreover, a Maréchal Niel year, for only once before, and that as far back as 1892, has this fine variety been as well represented at any of the last twelve exhibitions. Although sent out thirty-five years ago, Maréchal Niel still remains altogether unrivalled as a deep yellow exhibition Rose. Golden Gate, an 1892 variety, was also in capital form.

The number of choice sorts which were indifferently represented this year was not quite as large as usual. Madame Hoste and Ernest Metz were never before as poorly shown, while Marie Van Houtte, Caroline Kuster, and Ethel Brownlow were nearly as indifferently represented.

The progress in the Tea and Noisette section as compared with the advances apparent in the other table, must be regarded as very gradual. For example, going back six years we find only three sorts introduced during that period which secure places on the list, and two of these are sports from existing varieties. All three are, however, decided acquisitions, so that if the progress made be slow it is at all events substantial. New varieties in this class of Rose as a rule, it will be noticed, make but slow progress upwards in the table. In Maman Cochet we have, however, a brilliant exception; this fine Tea, although of foreign introduction and sent out as late as 1893, already stands at No. 5, having risen three places since the previous exhibition. In fact it appeared this year in more stands than any other Tea or Noisette. Muriel Grahame, before referred to as belonging to the Catherine Mermet family, and sent out in 1896, rises from No. 26 to No. 19. Bridesmaid, also a member of the same family, and the only other, new sort in the list, was distributed in 1893, and has risen since last year from No. 27 to No. 20.

It is with much reluctance that I have this year decided not to append to the analysis the usual audit of the newer Roses. After careful consideration I came to the conclusion that such an audit would be of little service at the present time, when there were so few new Roses shown at the exhibition this year about which the opinions of experts would be helpful. Either their positions in the analysis are already sufficiently assured, or they are as yet too little grown for accurate opinions to be formed respecting them. There are, however, three new Roses which are of too recent introduction to find places in the present analysis, but which I venture to think are certain in the near future to be largely grown. I refer to Bessie Brown, a very promising new Hybrid Tea, and White Maman Cochet and Mrs. Edward Mawley, two equally promising new Tea-scented varieties.

ROSES FOR GENERAL CULTIVATION.

The following select lists have been revised with the usual care, but the alterations made from year to year, particularly among the exhibition Roses, are necessarily slight. As in the selections last year, all the varieties named in each list have been placed in what I regard as their order of merit, considering the purpose for which they are intended. This arrangement is intended to assist those who require only a moderate number of plants. Those marked with an asterisk are either quite new or of comparatively recent introduction.

EXHIBITION ROSES.—HYBRID PERPETUALS.—*Light-coloured varieties*.—Mrs. John Laing, *Mrs. R. G. Sharman-Crawford,

*Mrs. Cocker, Madame Gabriel Luizet, Marie Finger, and Merville de Lyon. *Medium Reds*.—Ulrich Brunner, Dupuy Jamain, Suzanne M. Rodocanachi, *Helen Keller, *Tom Wood, Comtesse d'Oxford, Heinrich Schulthels. *Reds*.—Fisher Holmes, Général Jacqueminot, Marie Baumann, A. K. Williams, Alfred Colomb, Ferdinand de Lesseps, Captain Hayward, Dr. Andry, Duke of Edinburgh, and Victor Hugo. *Dark Varieties*.—Prince Arthur, Charles Lefebvre, Duke of Wellington, and Prince Camille de Rohan. *HYBRID TEAS*.—La France, Caroline Testout, Viscountess Folkestone, Marquise Litta, *Mrs. W. J. Grant, Captain Christy, Kaiserin Augusta Victoria, and *Bessie Brown. *TEAS AND NOISSETTES*.—Marie Van Houtte, Souvenir de S. A. Prince, Maman Cochet, *White Maman Cochet, Caroline Kuster, Souvenir d'Ami, Madame Hoste, Hon. Edith Gifford, Innocente Pirola, *Anna Olivier, and Rubens.

GARDEN OR DECORATIVE ROSES.—SUMMER FLOWERING.—*Provence*.—Common or Cabbage. *Moss*.—Common or Old and Blanche Moreau. *Damask*.—Rosa Mundi. *Austrian Briar*.—Austrian Copper, Austrian Yellow, and Harrisoni. *Hybrid Sweet Briars*.—Janet's Pride, *Lady Penzance, *Jeannie Deans, *Flora McIvor, and *Amy Robart. *Climbing Roses*.—Turner's Crimson Rambler, Bennett's Seedling, Félicité Perpétué, Claire Jacquier, *Paul's Carmine Pillar, The Garland, Rosa multiflora grandiflora. *AUTUMN FLOWERING*.—*Hybrid Teas*.—Gustave Regis, *Madame Abel Chatenay, *Antoine Rivoire, *Madame Jules Grolez, Gloire Lyonnaise, Augustine Guinoisseau, *Killarney, Grace Darling, Bardou Job. *Bourbon*.—Souvenir de la Malmaison. *China*.—Old Blush or Common Monthly, Laurette Messimy, *Madame Eugène Rosal, Mr. Bosanquet, and White Pet. *Teas and Noisettes*.—L'Idéal, Madame Lambard, G. Nabonnand, Coriona, Beauté Inconstante, *Souvenir de Catherine Guillot, *Souvenir de J. B. Guillot. *Perpetual Scotch*.—Stanwell Perpetual. *Polyantha*.—Madame Anna Maria de Montravel, Gloire des Polyantha, *Perle d'Or, and Cecilie Bruoner. *Japanese*.—Alba, Madame G. Bruant, and Blanc Double de Coubert. *Climbing*.—Gloire de Dijon, W. A. Richardson, Longworth Rambler, Madame A. Carrière, Rêve d'Or, Reine Olga de Wurtemberg, Madame Pierre Cochet, Bouquet d'Or, *Alistair Stella Gray, Monsieur Desir, Aimée Vibert, and *Wichuriana (trailing).—E. M., *Berkhamsted*.

PROPOSED NATIONAL GRAPE TROPHY.

I THINK Mr. Buchanan's proposal (page 272) is an excellent one, and that it is worthy of the consideration of both the Royal Horticultural Society and the Royal Caledonian Society. As regards the location of the contest year by year, I think that the place and date should rest with each of these two Societies alternately. If the R.H.S. deem it expedient, let it be, say, one year at the Crystal Palace and another year at Shrewsbury; and the same with the R.C.S., who might select Edinburgh and Glasgow alternately. There should be no great difficulty in providing the money for the cup, and for the cash prizes too.

I was glad to see by Mr. H. W. Adnitt's letter on page 314 that Mr. Crump's view was in accord with the intentions of the Committee of the Shrewsbury Show. I was conversing with Mr. Crump shortly after the decision had been arrived at on that occasion, and told him I considered his view was the correct one. In any future extension at Shrewsbury I should like to see a class for Grapes packed for transit by rail, as at the late Palace Show—but with the important reservation that all such exhibits be sent by rail and be delivered in the usual way, only to be opened by the Judges themselves.—J. HUDSON.

As I was the originator of the proposed national trophy for Grapes, I can only reiterate my promise to both contribute towards and compete for the honour of the part of the country in which I live. If such a trophy is supplied by any given societies, of course those societies will have a right to formulate their own conditions of competition, and exhibitors may do as they please about accepting them.

If, however, such a trophy has to be raised by public subscription, the subscribers must claim a right to arrange the conditions of competition, and to make the trophy truly national the subscription should be equal from north and south alike.

I would suggest that the Judges be selected (like the subscriptions) from north and south, and be men of known ability, and proved to be successful cultivators, who are able to distinguish one variety of Grape from another without the aid of printed instructions that require a lawyer to interpret.

I notice the modest suggestion of Mr. Adnitt that London and Edinburgh are the most suitable places for the scene of competition, but I fail to see any greater presumption for a national trophy to be competed for at Shrewsbury than a champion money prize. However, I hope other suggestions may be forthcoming that are worthy consideration.—J. H. GOODACRE.

[We have several more letters on this important subject.]

EUPHARIS AT HOOTON GRANGE.

I AM sending with a few cultural notes a photograph which represents twelve plants grown in 10 and 11-inch pots, and each plant measures from 2 to 3 feet through; some of the plants had thrown up a number of spikes previous to the photograph being taken. The number of flower spikes shown is 120, or about 300 fully developed blooms. The great majority of these blooms were produced from five plants, several of which produced over twenty spikes each; but from all the pots we have had more or less blooms than were present when the plants were photographed.

I have grown specimens from a few small plants procured some sixteen or seventeen years ago, and I have never been troubled with the mite. The luxuriant leaves and free-flowering habit of the plants have been very much prized and admired by my employer, W. H. Jones, Esq., as well as by gardening friends for many years. The number of plants is limited to twelve, for the simple reason that space will not allow us to grow more. The oldest of the plants represented were last potted six years ago in 11-inch pots, and about ten or twelve bulbs were placed in a pot. They flowered last November, and produced at one time sixty odd bloom spikes, and previous to that, in September of the same year, fifty spikes; so it will be seen that this year's crop of blooms is no great exception.

A very simple method of culture is adopted. The soil used is composed of three parts good fibrous loam, one part of peat, a sprinkling of bonemeal, a similar quantity of sharp sand, and a 7-inch potful of charcoal, broken up about the size of Filberts, to every bushel of soil. The best bulbs are selected, and they are potted carefully, but I do not wash the roots as some correspondents recommend. After potting they are placed in a temperature of 65° at night, with a rise in the daytime of 10° without sun heat, admitting a little top ventilation at 80°, with abundance of atmospheric moisture, syringing two or three times a day. The pots are placed on an open cast-iron grating stage over the hot-water pipes, and are never plunged. As the plants develop in growth, and the pots are becoming filled with roots, they are given weak liquid manure and soot water, twice on alternate weeks.

On the slightest indications of the dreaded mite I give the plants three or four waterings with a nitrate of soda solution, say a teaspoonful to 2 gallons of water; this, I consider, acts as an insecticide, as well as an invigorator to the plant.

Assuming that we have now good plants, with well-developed foliage, but which have not flowered since being repotted, I bring about a check by watering them less frequently, but never allowing them to flag through want of water, and at the same time lowering the temperature, say 5° at night, with less atmospheric moisture. After submitting them to this treatment for three or four weeks, replace them in strong heat and moisture, and with a watering or two of nitrate of soda the results will be such as will satisfy everyone.

My mode of culture may be summarised as follows: Shake out the old plants and repot whilst they are in good health, and do not wait until they are half eaten away with the mite; this is best done, I consider, immediately after they have ceased flowering. Pot in the compost suggested, water carefully until well established, use the syringe frequently, keep the foliage clean, and grow over hot-water pipes on an open stage if possible. Give liquid manure two or three times a week, let the plants have a genial temperature of 65° at night, with a rise of 10° or 15° by day, and the most important of all is that

they have a thick shading of canvas rolled down over them on the appearance of the least sunshine.

If any readers require further particulars of my method of culture, I shall be pleased to answer them through the *Journal of Horticulture*.—EDWIN BROADLEY, *The Gardens, Hooton Grange, Chester*.

[The photograph sent by our correspondent was taken by Miss M. F. Jones, and we reproduce it as illustrative of the results that may be attained to by adopting the system of culture so clearly described by Mr. Broadley.]

APPLE CHARLESTOWN PIPPIN.

THE above named variety of Apple is evidently a local one. My grounds for saying this is that I find no mention of it in Dr. Hogg's "Fruit Manual," which is well known as the best authority on Apples and other fruits in our language. Until I came to this part of

Yorkshire I do not remember hearing the name. Not knowing any Apple quite similar to it, I am sending you a few fruits. Perhaps with your more extended knowledge you may prove to us it is synonymous with some other variety. I can only find it catalogued by one nurseryman in the North.

Charlestown Pippin is a good eating Apple for this season of the year. It has another name amongst the working men, small farmers, and native schoolboys—viz., T'Helmender. After some amount of inquiry I have ascertained how it got this name. Helm is an ancient name for barn in Yorkshire, seldom or ever now used though. A large tree of the Apple in question grew at the end of a helm or barn, hence when asked the name of such good eating Apples, recipients were told it was, in Yorkshire parlance, T'Helmender—i.e., grew at the end of the barn.

The fruits sent are from a tree certainly not less than fifty years old. The tree is not a strong grower as compared with other varieties of Apple trees in the same orchard. It is a free bearing kind, and does well either as a standard, bush, or espalier. Of course under the two latter forms, and with good culture, the fruits would be finer in

size than those I am sending. Your opinion will, I happen to know, be valued by other readers of our *Journal* in Yorkshire as well as myself.—H. J. C., *Grimston, Tadcaster*.

If I remember rightly, T'Helmender Apple was a somewhat popular variety about Tadcaster, especially on the warp at Kirby Wharfe forty-eight years ago, and regarded as a form of King of the Pippins, due to variation and improvement through soil influences, though some regarded it as a seedling or "pippin," raised from a pip planted and cherished at the end of a helm. A helm (Saxon *helma*) was the name given to any rough building made of posts set in the ground, the back and ends formed of brushwood fagots, and a roof of the same and thatched, open at the front, and used as a cart shed, for farming implements or farm produce. The term *helm* at Stillingfleet—my native place, and about eight miles from Tadcaster—was never given to a barn, but a rough structure of the nature indicated for sheltering cattle, and that is what the term "*helma*" means. T'Helmender Apple was not grown in the orchard or garden at Nun Appleton on the opposite side of the river Wharfe, where King of the Pippins thrive well as espalier trees on stiffish loam over clay, on the border of the warp land termed "*inga*." Neither do I bring to mind T'Helmender Apple being in repute at Appleton Roebuck, where there was an orchard to almost every house



FIG. 65.—EUPHARIS GRANDIFLORA (AMAZONICA) AT HOOTON GRANGE.

the name Appiston meaning Apple-town. Nor was it heard of, that I remember, at Bolton Percy, a village nearer Tadcaster. Charles-town-Pippin was not then applied as a term synonymous with T'Helmsender Apple that I can gather from memory, though it may have been used for the fruit, which is better in quality than King of the Pippins, of which it may be considered an improved form.—G. ABBEY.

[Not recognising the Apple as identical with any other variety, and knowing Mr. Abbey's close acquaintance with Apples grown in Yorkshire many years ago, we consulted him on the subject. The Apple is distinct from King of the Pippins, but may very well, and not improbably, have originated from that variety as suggested. It is tender, sweet, and agreeable, though not in appearance imposing.]

POINSETTIAS.

In the dark days of winter there are few plants which give greater pleasure than these. They are extremely useful in various ways—for brightening our stoves and warm conservatories, with their vivid colours adding beauty to groups in rooms, and individually lighting dull nooks and corners. Small specimens in 3-inch and 4-inch pots, mixed with a few Ferns or Asparagus, give a brilliant effect, and, when not employed too lavishly, are appreciated. As cut flowers Poinsettias are not the easiest plants with which to deal. Only in the boldest of designs and arrangements should they be employed. A grand effect can be produced for a very large dinner party with the addition of some Callas thrown into bold relief with foliage of the latter.

In the questions and answers column of a recent issue something was said as to the cause of Poinsettias losing their lower leaves. This trouble is by no means confined to the plants of inexperienced growers, but is far too prevalent with those who, in most cases, should be able to avoid it. Many are the causes which predispose towards this defect. No matter how large the bracts or how well coloured, the plants, if destitute of their lower leaves, are shorn of a great part of their value for decorative purposes. Overcrowding in the growing quarters, being kept too far from the glass, neglect in watering, lack of nourishment to the roots, and the ripening process at times recommended as assisting in the formation of bracts carried to extremes, are some of the evils which tend to the fault.

There are two methods of propagating Poinsettias. The one from which I have obtained the better results is one which has been many times written of in these pages. About the middle of March shake out the old plants that have been at rest during the winter and repot in good soil. Restart them into growth in a fairly high temperature and the old stems will quickly put forth young shoots, and these should be kept near the glass to induce sturdy growth, weak cuttings in many instances being the cause of unsatisfactory results. These young shoots as they attain to 3 or 4 inches in length should be removed with a sharp knife, with or without a heel (I have not noticed much difference from either way), the bottom leaves trimmed off, and a clean cut made just below a joint.

The cuttings may then be dibbled singly into small pots, plunged in a close frame in a warm structure, where, with ordinary care, the rooting process will soon be accomplished. It may be advisable, if the old plants are growing in a close hot place, to remove them to slightly cooler quarters for a few days prior to securing the cuttings. By this means the growths will be hardened, and there will afterwards be less liability of losses from damping. Cuttings will root if placed in a Cucumber or Melon frame, but this involves a longer time for rooting, and also a certain proportion of loss.

Where great numbers have to be propagated, the method of cutting up the old stems with a dormant bud to each, after the manner of Vine eyes, may commend itself to many. The pieces of stem should be inserted 2 inches apart in pans containing a sandy open soil. If placed in strong heat the buds soon grow and roots will be emitted, when they must be carefully lifted from the pans and placed singly into small pots, be kept close for a few days until the roots have taken hold of the new soil, afterwards hardening and growing in the same way as the others.

A suitable position for the young plants when fairly started growing is a shelf in a Cucumber house or stove. Repotting will be needful as the pots become full of roots. One sees at times, in 7 and 8-inch pots, fine plants 6 feet high, with bracts 24 inches across. Such must have had a considerable amount of time in which to grow and develop. It is, therefore, obvious that late rooted plants cannot attain to the size of these, and in moving into larger pots judgment must be exercised as to the time of year and the size of plants ultimately desired. I venture to say those grown in 4-inch and 5-inch pots, from 18 inches to 2 feet in height, with bracts of even contour, and from a foot to 18 inches in diameter, are, from a decorative point of view, in every way desirable. Small late rooted plants in 3-inch pots will often be found useful.

During the warmest months Poinsettias may be grown in cold pits

or frames, closing early in the afternoon, and giving special attention to the watering. When first introduced to these cool positions, they will need elevating on pots or temporary staging which can be lowered as the leaves too nearly approach the glass. Allow all the sunshine the plants can bear without burning, though a slight shading will be found beneficial for an hour or two in the middle of the day when the sun is hottest. If the nights become cold, and house room is not ready, ample covering must be given; by this means valuable space may for a time be secured. I have found equal parts of loam, leaf soil, and peat, with enough sand to keep the whole porous, a good compost in which to grow Poinsettias. In some districts they can be grown in the natural loam with only the addition of a small amount of well decayed manure and sand. In this matter cultivators may soon learn for themselves what is best for their plants.

We never use stimulating manures until the coming bract can be discerned in the centre of the growth in the form of a bud. If still in a cool place a warmer temperature at this time must be given, though the plants must still be kept as near the glass as possible, and good results should follow. At this period, when the heads are forming, it is our practice to give the plants weak liquid manure once every other week, and as much sulphate of ammonia as will cover a shilling to a gallon of water. A friend looking last year at some plants 5 feet high crowned with good heads appeared to scarcely notice the latter. His first remark was, "How do you keep the leaves on?" Perhaps in the foregoing remarks he and others may find some enlightenment.

It is generally conceded there are two varieties of *P. pulcherrima*, besides the so-called white form; the latter I do not care for. Of the other two one is slightly earlier, with possibly somewhat better formed bracts, but not so brilliant in colour as the later one. To me the practice of training the plants around the edges of the pots in which they are growing is unnatural; but I should like to add to my rather lengthy remarks, that if it is desired to carry out this method careful measures should be employed—attention must be given every two or three days in the growing season, gently pegging or tying the shoots in the needed direction.—J. SHAFERD.

RENOVATING VINE BORDERS.

WHERE the Vines are unsatisfactory, the cause can usually be traced to defects of border, which may have been improperly made of material that has become sodden and sour; or from errors of management made quite unsuitable for root formation and preservation.

In such cases—wood long-jointed and sappy and not ripening well, Grapes not colouring properly, and not a few berries shanking—no time should be lost as soon as the leaves have effected their functions, and whilst they are still upon the Vine, in removing the soil down to the roots and picking it from amongst them, so as to displace as much of it as possible with fresh. Many old Vines may thus be rejuvenated where it is impossible to lift the roots. By removing the soil from over and amongst such strong fibreless roots, and supplying fresh soil for a distance of 2 or 3 yards from the collar, new roots may be had, especially if the old ones are notched about half way through on the upper and under side alternately. Improvement results in the following season, as the food substances are more appropriate, and when new roots are secured they can be fed to any extent by judicious top-dressings and liquid applications. It is astonishing what recuperative powers old Vines possess and what good results follow the securing of new roots near the stems.

Where the border is very unsatisfactory and the roots few and deep it is, no doubt, the better plan to remove all the soil and renew the whole border, commencing with the drainage. This should be 1 foot thick, having a layer of fine material at the top, nothing answering better than old mortar rubbish freed from laths or other bits of wood, a 3-inch thickness over 9 inches of brickbats or rubble. The drainage must have a 3 or 4-inch tile drain or drains under, with proper fall and outlet to carry off superfluous water. Two feet depth of soil is ample. Turfy loam, containing a good percentage of small stones and grit, is unquestionably the best. It should be of medium texture, that overlying clayey being better than that overlying a sandy substratum. Soils of the old and new red sandstone formations, commonly called "red lands," give the best and most lasting results. Strong loam interspersed with flints or calcareous gravel is excellent.

The roots should be laid out evenly in the top foot, encouraging those from the collar by laying any that proceed therefrom only just beneath the surface. The whole must be made firm, and the compost be moderately dry. Where the roots are inside and outside one part may be done one year and the other the next without any danger of loss of crop. Mulch the surface with a little short rather fresh manure, preferably horse droppings; outside borders may be covered with sufficient leaves, and a little litter over them to exclude frost. The work should not be delayed beyond change of colour in the leaves for falling. Any Grapes then remaining may be cut and bottled.—G. A.



ISABELLA SPRUNT.

WHAT a charming Tea this is for autumn flowering, the great masses of pretty creamy yellow blossoms being certainly one of the most beautiful October pictures in the garden. Many of our best summer Roses seem to need the warmth to bring them to perfection, but this variety opens more slowly now and shows its full beauty that in the heat of summer is very transient and apt to be overlooked. It is worth making a note of, too, as one of the best varieties for pot culture.—H. R. R.

ROSES IN OCTOBER.

WHEN strolling through the Market Hall in Birmingham on Saturday, October 7th, my attention was drawn to a fine, considering the time of year, stand of cut Roses supplied by Messrs. Perkins and Sons, Coventry, and Mr. Alfred Perkins remarked he did not recollect ever having known any in such excellent condition at any previous similar period, as several of the blooms were good enough for a summer exhibition board.

Especially fine were such as the Hybrid Tea creamy yellow Madame J. Courbet, and the buff yellow Tea Madame Berard. Of Hybrid Perpetuals Paul Neron, Sir Rowland Hill, Prince Camille de Rohan, Gustave Piganeau, and Etienne Levet were very good, and fine examples of Charles Lefebvre, Madame Marie Verdier, Mrs. John Laing, Captain Hayward, Duke of Wellington, and Susanne Marie Rodocanachi were there—a striking evidence, I think it will be readily conceded, of the geniality of the season.—W. G.

ADVANCE BLACK HAMBURGH.

On page 264, September 28th, "Westerner" has advanced suggestive remarks on the question, "Is Gardening Advancing?" Advancing, indeed; say the croakers, "why it is going back." Look at the miserable types of single flowers now popular which the grand old florists in the "forties" would only view with scorn. No; things are not what they used to be; England, and in particular the horticultural community in it, is "going to the dogs." How strange it is that men with so many ideas in common should view special subjects through such variously coloured glasses, for the sturdy upholder of the triumphs of the past will generally find some youthful spirit ready to vigorously combat the assertion of the ancient, and thus lay himself open to the sharp retort, "How old are you? A fine example of modern audacity indeed is yours to speak thus slightly of the 'glorious achievements' accomplished before you were born." In vain the youngster pleads that one of the delights of gardening is found in the ever changing fashion, which swiftly brings to the front some particular type of flower, not perhaps so small and solid as the giants of former days, yet so charming in its simplicity, that it "catches on" with the artistic spirits of the day; then gathering boldness as the rounded phrases pass from his lips, adds—"and the plants are as grandly grown now as those in days of yore." The ancient smiles a meaning smile, pities the innocence of the youth, perhaps too his ignorance.

The above is only a fanciful picture which arose in my mind as I ruminated upon some of the trenchant remarks of a "Westerner." I do not intend to show the folly of anyone attempting to combat them. I am simply embracing the opportunity of adding a word of praise in support of an old favourite—the Black Hamburgh Grape, which, like "Westerner," I consider is still the black Grape to grow when only one variety is wanted, for it can be had in fine condition over a long period. During the summer months there are several varieties which equal it in point of quality, notably Muscat Hamburgh, Madresfield Court, and Mrs. Pince; but these require special treatment, and unless in expert hands cannot be relied upon to give such fine crops annually as our old friend. Muscat Hamburgh often sets badly, and it is not everybody who can colour it well. Mrs. Pince has the same weak points, and Madresfield Court, though a good setter, is not a variety cultivators care to rely upon for keeping long after the Grapes are ripe, great care being required to prevent the berries from splitting during wet weather. Black Hamburgh, on the other hand, keeps well during the summer if a slight shade is given. In private places a house of this variety will maintain a good supply for several months, with the loss of very few berries if ordinary care is exercised. These points are well known, and notwithstanding the many good varieties of black Grapes which we now have, the "ancient one" is still more largely grown than any other for maintaining a

summer supply. Bold indeed must be the man who would seriously attempt to depose Black Hamburgh from its unique position.

Although largely grown for use during the summer, it has during recent years been much neglected in regard to the autumn supply; the more showy Alicantes and Colmans seem to be preferred solely on account of their imposing appearance. The former is, I think, the most easily grown Grape in cultivation, and unless anything is radically wrong with the treatment it colours splendidly and carries a dense bloom. With high feeding good Vines will carry enormous crops year after year without showing signs of weakness; it may therefore be considered a profitable Grape to grow—as times go—and it is a matter for no surprise that it should have been planted so largely. In point of flavour Alicante is certainly not the worst variety grown, but I think no one would seriously compare it in that respect with Black Hamburgh. The low price of Grapes during the last ten years has brought them within the reach of a wide section of the community, a section which knows nothing of the eating qualities of several of the varieties. Appearance is the sole feature by which they judge; but, if I mistake not, we shall see a change in this respect in the near future. There are signs of it already, for that section of the public which has Grapes on their table regularly are beginning to find out that Grapes should be judged by some other standard than that of appearance.

By chance they sometimes obtain Black Hamburgh in the autumn, and find its flavour is so superior to other varieties that when ordering their next supply they bargain for the same variety, often to the consternation of the shopkeepers, for although they are deluged with Black Hamburgh Grapes up till the middle of September, after that time the supply gradually lessens, and during October and November they are sometimes at their wits' end to know where to procure them. This point I have noted during the last two years, and have laid my plans accordingly, with the result that I have now a fine house of Hamburgs just ripe, and find no difficulty in disposing of them while the markets are glutted with Alicantes.

My opinion is that market growers might with advantage return to the faith of their fathers, and plant this variety for supplying the markets during October and November. It is not everyone who knows what heavy crops it will finish well if liberal feeding is given, for it has been too common a practice to jump at the conclusion that when the Grapes do not colour well heavy cropping is the cause. I grant this may be so in many instances, because the Vines are deficient in root action, or are not well fed, but I am convinced that the most potent cause of deficiency of colour in black Grapes is giving too much fire heat and maintaining too dry an atmosphere during the ripening period. This somewhat sweeping assertion may perhaps draw out adverse criticism from north, south, east, and west. If it does, let us hope it will be for the mutual benefit of "Journal" readers.

In private establishments there are still many who cling to the ancient practice of having a good supply of Black Hamburgs during the autumn months, as in their case employers speedily detect a change in the variety sent to table when the new comer lacks the exquisite flavour of the one which preceded it; and in many other instances gardeners would, I think, do well to extend the period during which they send this fine Grape to table. Discarded favourites have a knack of coming to the front again; and I predict that the Black Hamburgh Grape will once again reign in its former glory during the autumn months.—MIDLANDER.

CINCHONA OFFICINALIS.

It is seldom that specimens of any of the species of this valuable medicinal genus are found in gardens, although some are decidedly ornamental in character if well grown, besides being of the greatest interest to people generally, from the fact that it is to certain members of this family that we are indebted for the quinine of commerce. At Kew several species are cultivated in the Mexican house, and at the present time the one under notice is in flower. It is a native of Peru, where it is said to attain a height of 30 or 40 feet. At Kew the specimen has formed a bush 4½ feet high. It has deep green ovate leaves 8 inches long, with a deep red midrib. The flowers are borne in large terminal panicles from the side branches; they are tubular, about half an inch long by a quarter of an inch across the mouth, pink in colour, with the edges of the petals beautifully fringed.

Like several of the other Cinchonas, the leaves of this one colour most brilliantly before falling. Travellers in South America state that no more effective scene can be imagined than that of a Cinchona forest just before the fall of the old leaves, the colour of the foliage being orange-scarlet. The subject of this note supplies the crown bark of commerce, and is considered one of the most important members of the genus. It has been known under a number of names, no less than five synonyms being given in the "Botanical Magazine," where it is figured t. 5364.—W. D.



RECENT WEATHER IN LONDON.—Though rain has been foretold on more than one occasion, none has fallen during the past few days. On Sunday and Monday the nights and mornings were frosty and the days cool with fresh winds, though the sun shone brilliantly at times. On Tuesday it was mild and pleasant, while on Wednesday it opened foggy, but was mild and pleasant at midday.

DIPLADENIA ATROPURPUREA.—This fine climbing plant has obtained a bad name in gardens simply owing to its being grown in too much heat. It would be difficult to say how many species of stove plants so-called are in a like predicament. The fine colour of this one makes it worth growing anywhere, and the best place for it is a warm moist greenhouse where the fires are let out in summer, and the winter minimum is about 55°. Here the plant will make clean and vigorous growth, quite different from the insect infested shoots seen in hot stoves, and is very free flowering.—R.

APPLE POTTS' SEEDLING.—After the earlier types of Apples, such as the Codlins, are over, one feels rather loth to begin on the late-keeping kinds, and as a midseason variety this may be strongly recommended. Apparently it is not very particular either as to soil or form of training, for in this year of comparative scarcity I have met with it on all kinds of trees and various soils, in nearly every case fruiting well. I am not at all fond of close training or pruning of any kind, but where convenience for a more natural method does not exist, Potts' Seedling seems able to hold its own in espalier form. It is one of the finest cooking varieties in existence, comparable with the old Keswick Codlin of the early, and Lane's Prince Albert of the later sort, and this should be praise enough.—H.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—I was pleased to see by the report, on page 318, of the above Society's annual dinner, that the United is in a highly satisfactory condition, which is pleasing to the officers and all connected with it. I should like to make a suggestion to the Committee with reference to the annual dinner, to the effect that if they could hold the dinner on one of the evenings—say the second day of the Crystal Palace Fruit Show—it would give members a chance of attending who are in London at the time. I myself should have been pleased to have been there had it been arranged for the week before, and doubtless many others would have been glad of the opportunity of a pleasant evening in company of the officers and brother members of the Society.—COUNTRY MEMBER.

DAHLIAS.—The Devon and Exeter Gardeners' Association opened its autumn session on October 11th, when, in the Guildhall, Mr. Fletcher, gardener to Colonel Halford Thompson, J.P., read a paper on Dahlias, from which we extract the following interesting historical remarks. The history of the Dahlia was neither a great nor long one. So far as this country was concerned it did not go back beyond the beginning of the present century. It was a native of Mexico, and when first brought over here it was looked upon and treated as a hothouse plant and of course killed. The first description of the Dahlia occurred in Francisco Hernandez's treatise on "The Plants and Animals of New Spain," published in 1615. No more was heard of it for 130 years. In 1787 M. de Menouville was sent to America by Louis XVI. to obtain a species of cochineal insect and also the plant it subsisted upon. De Menouville published an account of his successful expedition, and one of his items of interest was a description of a garden at Guaxaca, where plants were seen with handsome flowers like Asters on stems a few feet high and leaves like those of the Elder tree. It was evident he had seen the single Dahlias, which the florists of Mexico were at that time growing. There were two species of Dahlias known and described in 1880—viz., *D. pinatus* and *D. coccinea*, and although there were several other species the Dahlias of our day had chiefly descended from these two. In 1790 Abbé Cavanille, the author of the genus, dedicated it to Andre Dahl, the Swedish botanist, and this fact he mentioned so that it might help them to give the name its correct pronunciation. The Abbé Cavanille was the first to obtain double flowers, and other botanists and florists taking it up and finding their subject so amenable to treatment it was not long before the double Dahlia became established among us and took up its important place in our gardens.

GARDENING APPOINTMENTS.—The Asylum Committee of the Corporation of Leicester have appointed Mr. Hamshire to the management of the gardens, farm, and estate at the Borough Asylum, Humberstone. Mr. Hamshire has been head gardener at Beaumanor Park, Loughborough, for the past fourteen years, and is succeeded there by Mr. Alex. McVinish, late head gardener at Lockington Hall, Derby.

NICOTIANA SYLVESTRIS.—The more I see of this fine plant the better I like it. The immense leaves are strikingly handsome, and are surmounted with fine spikes of pure white tubular blossoms, half a dozen of which make a remarkably fine show. It is not quite so sweetly scented as *N. affinis*, but it keeps open all day, and makes a telling feature in large beds. It should be sown very early in the new year, and the plants grown strongly in pots, and planted out at the end of May, as they need a long growing season.—B. S. E.

NEW HYACINTH GLASSES.—Fashion in these requisites for flowering Hyacinths in water are constantly changing. The latest we have seen are some which have been sent to us by the makers, Messrs. Stevens & Williams, Brierley Hill. They are of vase form with a frill-like receptacle for holding the bulb. The vase-shaped part is 4 inches high, 2½ inches wide at the base, and 4 inches near the top, the cup a little wider than the base, and 1½ inch high. They are more massive in appearance than those in general use, are made in various colours and chased with an elegant floral design. They are equally suitable for cut flowers, and comparatively inexpensive.

KIDDERMINSTER AND DISTRICT HORTICULTURAL SOCIETY.—The usual monthly meeting of this flourishing Society was held on Wednesday the 11th inst. The chair was taken by F. Hughes, Esq. There was a large gathering of members to hear an address on the cultivation of the Chrysanthemum by Lord Dudley's able gardener, Mr. A. Young, from Witley Court. Mr. Young dealt with his subject in a practical and instructive manner, giving details as to the propagation and general cultivation of this popular flower, concluding with hints as to the more decorative arrangement of large blooms both for exhibition and house adornment. Mr. Young being a recognised authority on the subject, his address was listened to with great interest. Mr. Young was accorded a hearty vote of thanks, after which an interesting discussion took place. A pleasing display of Chrysanthemums was made by some of the members present, prominent among which were some remarkably fine blooms of Mutual Friend exhibited by one of the Hon. Secs., Mr. F. Whicker, of Summerhill Gardens, a very successful and extensive cultivator.—W. H. W., *Stourport*.

MISTAKES IN EATING FRUIT.—Many who are otherwise keenly appreciative of the value of fruit as a food, display a great lack of judgment in the manner in which they take advantage of their valuable qualities. As is argued by a well-known food specialist, most people, instead of taking fruit on an empty stomach, or in combination with simple grain preparations such as bread, eat them with oily foods, or take them at the end of the meal, after the stomach is already full, and perhaps the whole mass of food washed down with tea, coffee, or other liquid. Fruits, says a contemporary, to do their best work should be eaten either on an empty stomach, or simply with bread—never with vegetables. In the morning they are not only exceedingly refreshing, but they serve as a natural stimulus to the digestive organs. The good effects that would follow the abundant use of fruits are often more than counterbalanced by the pernicious habit of saturating them with sugar; very few fruits, if thoroughly ripe and at their best, require any sugar, particularly if eaten in the raw state.

VARIEGATED IVY-LEAVED PELARGONIUMS.—The number of good varieties of Variegated Ivy-leaved Pelargonium is surprisingly small, considering how long they have been in cultivation. I know of only about three or four that can be called distinct, and these are very pretty. One I like very much has a pink or red marking in addition to the white, something like the variegated Ivy *Hedera marginata* medio. This is distinctly pretty either as a basket plant or on a pillar or arch in the conservatory, the fresh pink of the young leaves being very attractive. One or two others are, I think, sports from the stronger growing Ivy-leaved kinds, and are not worth growing. To make a variegated kind pretty it wants the habit more or less of the old Koenig Albert, one of the oldest, if not the oldest, of the Ivy-leaved section, and still one of the prettiest. I have a sport that originated from one of the silver variegated Zonals, but beyond putting a few plants in the beds in summer I do not consider it worth growing, the internodes being too long and the flowers too poor. It is best without the latter in fact. The pretty clearly marked *L'Elegante* is worth growing as a basket plant and for bedding out in summer.—G.

KILLARNEY FERNS.—In the Botanic Gardens of Trinity College, Dublin, and under the superintendence of Mr. Burbidge, in one of the stoves, is a glass structure in which the Killarney Fern is cultivated. The plants have been growing here for over sixty years, and are perfectly healthy; they were presented by the late Dr. Bull and his wife.—A. O'N.

GALTONIA CANDICANS.—During the past summer the Cape Hyacinth has been particularly fine, the spikes being tall, and the bell-shaped flowers large and pure. We have used the Galtonia extensively in beds planted with "Geraniums," *Calceolarias*, and so on, by putting out the started bulbs at bedding time. The tall spikes of flower assist in doing away with the flatness of beds, and they are seen to advantage in such positions. Spikes of Galtonia candicans are also extremely useful for decorative purposes.—V. T.

STRAWBERRY ST. JOSEPH.—I should like to add a note respecting this perpetual Strawberry to those of "B. M." (page 317). In one of the houses at Gunnersbury Mr. Hudson has a splendid stock of St. Josephs in fruit and flower; in fact, the house is filled. Arranged on portable stages specially adapted to pot Strawberry culture, and on shelves over the pathway of a span-roofed house, the plants are fruiting as freely as the ordinary varieties do in the spring. The plants are not over-large, are in 5-inch pots, and were layered in July. Outdoor beds are still in bearing, though of course not profusely, and I should say Mr. Hudson will now be able to gather fruit practically all the year round. For my part, I feel sure that this variety will prove to be one of the best, if not the best, acquisitions to all classes of Strawberry growers. Those who have not given it a trial should procure a stock at once.—ONE OF "THE THREE COUNTRYMEN."

BRISTOL GARDENERS' ASSOCIATION.—The opening meeting of the winter session was held in St. John's Parish Room on Thursday last, when there was a very good attendance. An instructive paper was given by Mr. W. Bound of Wokingham, Berks, on "A Few Useful Stove and Greenhouse Plants." He illustrated his remarks with several specimen plants, cut blooms, and plates, amongst which was a fine collection of Anthurium blooms, and a well-developed plant of *Acalypha hispida* (Sanderi). The plants he urged the audience to grow both on account of their usefulness and easy culture were Anthurium, Poinsettia, *Euphorbia jacquiniiflora*, *Eschynanthus*, *Streptocarpus*, Begonias, including the variety *Gloire de Lorraine*, and *Acalypha hispida*. Mr. Bound gave cultural directions to secure the best results, the soil best fitted to grow the different plants and methods of propagation, laying great emphasis in each case on the need for good drainage, careful watering, and plenty of ventilation. Prizes for twelve Onions were awarded. First, Mr. Shaddick; second, Mr. Bannister; and the Society's certificate of merit was awarded Mr. Shaddick (Croton), Mr. Newberry (*Odontoglossum grande*), and Mr. White (Pitcher Plant).

NOTES FROM IRELAND.—Situated within easy distance of the City, a pleasant afternoon can be secured by visiting the charming grounds of Messrs. Watson & Sons, Clontarf, Dublin. The firm makes a specialty of Carnations and Roses, and their efforts with these florists' flowers are invariably successful. However, Messrs. Watson grow general nursery stock as well, and I learnt on a recent visit that they had gained a silver medal for a stand of hardy herbaceous flowers, staged not for competition, at the recent autumn show in Merrion Square. The award was made after the festival was over, and was forwarded by the Council about a fortnight ago. Winter has arrived, the Dahlias made an unerring guide, whilst other natural barometers in the grounds were links in the chain of proof. At present the nursery is in a transition stage; large plots were planted with thousands of Carnations, whilst the Roses as yet have not been touched. The Council members of the Royal Horticultural Society held their usual meeting on the 11th inst., when final arrangements for the Chrysanthemum and Fruit Show on November 7th and 8th at Ballsbridge were completed. Very recently the herbarium attached to the botanical department of the Dublin Museum has been enriched by the Hon. Lady Leighton, who has presented the specimens of the deceased Lord de Talbey, which were used by him when compiling "The Flora of Cheshire" and published under the pseudonym of "The O'Byrne." Professor Johnson is awaiting the cases to prepare the collection, which is estimated at 20,000 specimens. Through the kindness of Sir W. Threlton Dyer, this desirable gift has been acquired for our working botanists, who will shortly avail themselves of their acquisition. Weather recently has been very changeable. The result is apparent on the Chrysanthemums, and several growers have found their plants attacked with rust, causing a little uneasiness, owing to the proximity of our leading shows.—A. O'NEILL.

READING GARDENERS' ASSOCIATION.—The opening meeting of the autumn session of the Reading Gardeners' Association was held last week, when an interesting hour was spent on the subject of "Successes and Failures of the Past Season." This was opened by Mr. H. Wilson, The Gardens, Lower Redlands. The exhibits consisted of a splendidly flowered *Mittonia candida*, shown by Mr. Lever, The Gardens, Hillside; a bunch of highly coloured *Salvia Scarlet Queen*, by Mr. E. Fry, The Gardens, Greenlands; and a grand specimen of *Alfriston Apple*, weighing 1 lb. 10 ozs., by Mr. Farey, Balmore Gardens. As it was the first meeting held by the Association since the decease of Mr. James Martin, the President, Mr. C. B. Stevens, referred to the great loss the Association had sustained by his death. It was suggested that some memorial should be raised.

CONTINUATION SCHOOL GARDENS.—Following the example of Surrey, the Staffordshire County Council has established groups of twelve gardens in twenty-seven districts of the county, and an interesting exhibition of the produce of these gardens was held in the Technical Instruction Buildings, Stafford, last week. All kinds of useful vegetables were shown, and their quality, as representing the work of youths, excited general admiration. Lord Hatherton, speaking on the occasion, said "he sincerely hoped these gardening schools would flourish. They were being scattered all over the country, and youths were taught to make the best possible use of a plot of ground for producing vegetables. The teaching also tended to give village lads healthy occupation during long summer evenings, and to keep them from the habit of loafing and the mischief which the temptation entailed." The plots are 24 by 16 feet, and the local teachers consist of schoolmasters who have passed the R.H.S. examination and district gardeners. The work is conducted under the able superintendence of Mr. R. Cook, F.R.H.S., County Instructor in Horticulture.

CAULIFLOWERS.—We are getting a plentiful supply of what the market grower tersely terms "Whiteheads" in the market now, and excellent they are. So far none have been of great size, happily, and there is little probability that any such will be seen this autumn. At the recent Aquarium Show, whilst some excellent and massive heads were staged in the collections, there were none unduly large, but some might have been rather whiter. The turning down of a few leaves when the head begins to form often saves it from discolouration. That heads of the Autumn Giant should be of good size when exhibited or marketed, is natural, as it is always fitting that examples of anything that may be exhibited should display the average size and character of the kind or variety. In the early summer half a dozen of Snowball heads 6 inches over, and white as snow, make a very effective feature in a collection of vegetables. Then in July and August Early London and Magnum Bonum are useful varieties. But without doubt the brunt of the supply of Whiteheads is borne by the popular Autumn Giant, which, under ordinary conditions, keeps our requirements satisfied until Christmas. Heads of average size are from 8 to 9 inches over. Larger ones overpower the other exhibits in a collection, smaller ones seldom do the variety full justice. But a collection of six or nine kinds of vegetables shown in the autumn which has for backing half a dozen solid white Cauliflowers always start well. A collection without such a feature is weak at the best, let other kinds be what they may. Apart from such merits Cauliflowers are amongst our very best and most succulent vegetables.—A. D.

METHEOLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1899.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
October.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
		deg.	deg.	deg.	deg.		ins.	deg.	deg.	
Sunday .. 8	N.N.W.	38.6	36.2	51.1	32.4	—	49.2	54.1	55.4	25.4
Monday .. 9	E.S.E.	40.1	40.0	59.7	31.7	—	48.3	53.8	56.1	25.9
Tuesday 10	E.S.E.	36.1	35.6	60.2	32.1	—	48.2	52.9	55.9	24.9
Wed'sday 11	S.E.	41.0	40.3	63.7	34.6	—	48.2	52.5	55.6	27.1
Thursday 12	S.E.	51.2	50.6	62.9	40.5	0.07	49.6	52.5	55.4	33.2
Friday .. 13	W.S.W.	47.8	43.5	63.6	41.2	—	50.5	52.8	55.1	32.8
Saturday 14	N.N.W.	41.0	39.7	52.5	29.0	—	47.0	52.6	54.9	20.2
MEANS ..		42.0	40.8	57.7	34.5	Total 0.07	48.8	53.0	55.5	27.1

The weather has been remarkable for dense fogs, cold biting winds, and frost on the ground nearly every morning during the week.

ROYAL HORTICULTURAL SOCIETY.

THE next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, October 24th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Growth of the Fruit Trade" will be given by Mr. Geo. Monro, V.M.H., at three o'clock.

The War Office having asked for the Drill Hall of the London Scottish Volunteers (in which the meetings of the Royal Horticultural Society are held) to be placed at its disposal for the temporary accommodation of 300 soldiers *en route* for South Africa, it is probable that the Society's meeting on October 24th will have to be held in the Drill Hall of the Queen's Westminster Volunteers, which adjoins that of the London Scottish, being actually the next door. If this should be the case Fellows and exhibitors are requested to make the best of an unavoidable inconvenience, which it is hoped will not have to be repeated.

DATES OF MEETINGS IN 1900.

The following dates have been fixed provisionally for meetings in 1900:—January 9th and 23rd, February 13th and 27th, March 13th and 27th, April 10th and 24th, May 8th and 23rd, 24th, 25th (in the Temple Gardens), June 5th and 19th at the Drill Hall, 27th at Richmond; July 3rd, 17th, and 31st, August 14th and 28th, September 11th and 25th at the Drill Hall, and 27th, 28th, 29th at the Crystal Palace; October 9th and 23rd, November 6th and 20th, and December 4th and 18th. January, 1901, 15th and 29th, and February 12th. Gentlemen willing to lecture on any of these dates are requested to communicate with the Secretary, 117, Victoria Street, S.W., at once.

CHISWICK TRIALS.

Trials will be made at Chiswick in 1900 with the following subjects:—

- 1, Tulips for outdoor decoration. Twelve bulbs of each variety should be sent *at once* to the Superintendent, R.H.S. Gardens, Chiswick, W. Each variety should be marked with its colour, and whether early, midseason, or late.
- 2, Phlox decussata. Two plants of each should be sent on or before March 1st.
- 3, Cactus Dahlias. The 1899 trial will be repeated. Any new varieties, two plants of each, should be sent in April.
- 4, Potatoes, new varieties. Twenty tubers to be sent before February 1st. Also a trial of distinctly early Potatoes, both old and new varieties requested.
- 5, Tomatoes, for outdoors only. Seed before February 1st.
- 6, Peas. Half-pint to be sent in January.
- 7, Celeriac. Seed in January.

EXAMINATION IN HORTICULTURE.

The Royal Horticultural Society will hold its next examination in horticulture on Tuesday, April 17th, 1900. For syllabus apply to the Secretary, R.H.S., 117, Victoria Street, S.W., enclosing a stamp.

RICHMOND HORTICULTURAL SOCIETY.

"THE Council of the Royal Horticultural Society have kindly consented to hold one of their exhibitions and committee meetings in the Old Deer Park on the last Wednesday in June, 1900, in conjunction with the Richmond Horticultural Society. Mr. C. R. King, Honorary Secretary of the Richmond Society, desires us to state that the Committee wish in future to place their schedule in the hands of subscribers and others in the month of January, and to this end they are now preparing the 1900 issue for the press. The assistance of friends and supporters of the Society is particularly requested at their earliest convenience, and all inquiries should be addressed to Mr. King, at 61 and 62, George Street, Richmond."

The above is an extract from a Richmond paper, and conveys information that cannot fail to be of interest to the Fellows and Committees, especially of the R.H.S. Practically it indicates an entirely new departure on the part of the Council, for, so far as we are aware, this is the first time on which committees have sat anywhere under the ægis of a totally distinct society. The origin of this novel course is, we believe, due to a suggestion made by Mr. A. Dean to some of the members of the Richmond executive at the Richmond Society's Flower Show in June last, and which it seems has very speedily borne fruit.

The combination of an ordinary meeting of the R.H.S. with the annual Show of the Richmond Horticultural Society in the Old Deer Park should result in an unusually fine exhibition there—indeed, one of unusual interest. Presumably the local Committee undertakes to supply suitable tent and tabling accommodation for the R.H.S. Committees. Possibly generous arrangements will also be made to entertain all the members at luncheon. Of course that would mean a big thing. That the Committees would enjoy a meeting under such enjoyable auspices as the Old Deer Park affords there can be no doubt.

HYACINTHS IN BEDS.

To grow Hyacinths well in beds the soil should be rich, light, and deep. Supposing the soil of the garden is a sound loam and well drained, fix upon the beds intended for these bulbs and excavate it to the depth of 15 inches. Level the bottom, and place a layer of small stones or brick-ends broken small, 2 inches thick. Cover this drainage with 2 inches of littery manure; then mix the soil that has been thrown out with some well decomposed cow manure, some leaf mould, and plenty of river or sea sand, well screened. The proportions to be one part cow excreta, one part leaf mould, to six parts of loam. Should the substratum be clayey or gravelly, that part must be wheeled away and as much good loam added as will replace it; then mix the compost well together, and fill the bed with it; let it be 4 or 5 inches above the former level, to allow for settling; lay it perfectly level, so that it may have the full benefit of the rain that falls upon it. This preparation of the beds should be done immediately. If there is time it would be all the better for a turn over before planting. I may just remark that if cow manure cannot be procured hotbed refuse well decayed will do; but I greatly prefer the former, because it is of a cooler nature, and, generally, has less straw amongst it.

The best time for planting is the third week in October, though, if the weather is mild, they may be planted as late as the middle of November. Much depends upon the weather and the state of the ground. It should by all means be moderately dry, and therefore it is better to wait a week or two should the season at the proper time of planting be wet. To prevent treading on the bed at that time lay on it a narrow piece of board long enough to reach across it, or have the board strong enough to bear the planter's weight, and raise it up at each end high enough to clear the bed; then procure a dibbler to plant them with, which should be thick enough to make a hole as wide as the largest Hyacinth is in diameter, and the end that is thrust into the soil should be out across and a mark made just as far from the bottom as the bulbs should be covered with soil; the proper depth is 3 inches from the top of the bulb. Anybody with a saw and a knife could make such a one. Having a fine day and the board and dibbler ready, then bring out the bulbs and place them on the bed just where they are to be planted. Each Hyacinth should have at least 5 inches to grow in, but 6 inches would not be too much space for the leaves to expand, especially if the same bulbs are to be planted again the following season. If the colours are to be mixed place them so that the shades will succeed each other in rotation, as, for instance, 1, red; 2, blue; 3, white; 4, yellow; then 5, red, and so on till the bed is full; or if there are several beds, and it is desirable to keep the colours separate, so that one bed shall be red, another blue, another white, and another yellow, then plant them accordingly. For a geometrical flower garden the latter mode will be preferable. As soon as one bed is placed with bulbs, then fix the board across at one end, and proceed to plant them. As the planting proceeds have some of the compost ready sifted through a coarse sieve, and fill up the holes with it. This is much better than levelling the holes with a rake, because they are when so covered sure to be at the right depth. When all are planted rake the bed very lightly, and the operation is complete.

The Hyacinth is hardy enough to bear a moderate amount of frost; but it is advisable to cover the bed with about 2 inches of cocoa-nut fibre refuse, to be removed early in the spring before the shoots appear above ground. Where this is scarce, half-decayed leaves would answer the same purpose, or a mat or two thrown over the bed would be sufficient protection. These shelters are for such Hyacinth beds as may be in an ordinary flower garden on the lawn, or in beds in a geometrical flower garden, with Box or other edgings and gravel walks. If an amateur or florist cultivates the Hyacinth in beds like Tulips, the beds might be sheltered with hoops and mats. These kind of shelters can be used when the bulbs are in flower as a protection from sun, wind, and heavy rains. If so protected, the season will be considerably prolonged.

As the season of the Hyacinth's growth takes place during the winter and early spring it very seldom happens that they require much water at the roots, but during dry parching winds which sometimes occur in March, a slight sprinkling over the beds will be acceptable to the rising buds. In frosty weather this should be applied in the morning only; but if there is no appearance of frost, then water in the evening also, previously to putting on the shutters for the night. This sprinkling may be continued with advantage till the blooms begin to expand. As soon as the flower is over the old stems must be cut off, but not quite down to the ground, the covers removed, and as soon as the leaves turn yellow the bulbs should be taken up and laid on a mat to dry. By being laid on a mat they can be lifted easily under shelter in heavy rains, which would injure them if allowed to fall upon them. When the leaves are all quite decayed trim them off carefully, without bruising the bulbs, and then put them away in a dry cool room till the planting season comes round again. The general rule, however, is to purchase fresh bulbs every autumn.—T.

VIOLET PRINCESS OF WALES.

I HAVE recently placed my first plants into frames, and will endeavour to give to the readers of the Journal my details of management. In April or early May I select a piece of ground facing due east, and partially shaded from the south and west. This is thoroughly worked two spits deep, and a liberal amount of decayed manure placed in the bottom trench. The surface is trodden to make it firm and even, and with a rake over, the ground is ready for planting. In dividing the old plants as many roots are

spade as much soil is retained with each plant as a man can jog along with comfortably to the frames. Deep planting is the rule, the plants being disposed a foot apart, and the soil is made very firm around them. A thorough root-reaching watering is given, and syringing practised as often as required for keeping the foliage fresh. The lights are allowed to remain off for about three weeks, after which they are placed on, keeping every other light half way up, and down, except in showery weather, when they are tilted at the top for ventilation, for the Violet detests a stagnant atmosphere. The requirements to keep in view for the well-being of the Violet are a deep, rich, and moderately dry, not wet, rooting medium, with partial

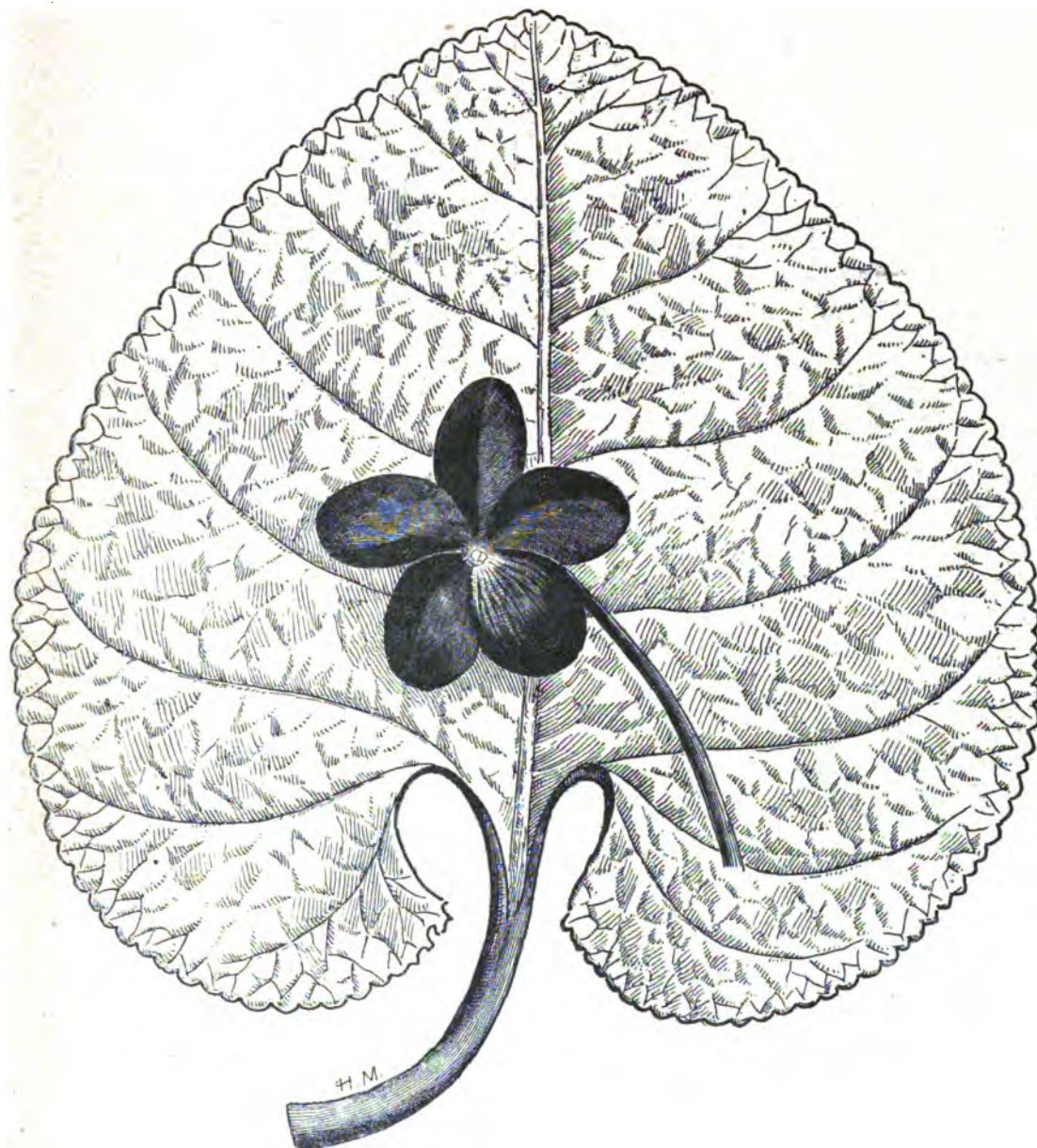


FIG. 66.—VIOLET PRINCESS OF WALES.

secured to the offsets as possible. These are planted with a trowel, the roots being placed straight down, and the plants a foot asunder. A thorough watering is given to settle the soil about the roots, and the foliage is syringed every afternoon throughout the season. I generally find that by syringing the plants daily they seldom require water at the roots. The next important point is to keep all runners as they appear cut from the plants, for which purpose they are looked over every week. Strong crowns are thus produced which yield excellent blooms.

During the first week in October frames are placed in a position facing due south, and as near as possible to the bed of plants. The ground is dug inside the frames, then a layer of decayed manure and soil spread alternately until the frame is filled to within 9 inches from the top, the soil being made firm and even. In lifting with a

shade throughout the summer months. Under the simple treatment described satisfactory results are obtained.

I send a few leaves of Princess of Wales so that you, Mr. Editor, may judge for yourself as to the health of the plants. I also enclose a sketch of a leaf and flower of the same variety. Almost every leaf in the bed is equal in size, and many are larger than the one depicted. The flower is one of the first few produced, and I hope before long to be able to send you a few better blooms. I trust the size of the sketch may as-is to hide its defects.—H. MITCHELL.

[Sometimes the larger the sketch the more visible the defects. We can only say that the handiwork of our correspondent required little or no improvement by our artist in the process of reproduction. The deep green leaves received are of great substance, and the plants have evidently enjoyed the treatment which has been accorded them by the cultivator.]



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries:—

- Oct. 31, Nov. 1.—**TAUNTON**.—John S. Winsor, 16, Hammet-st., Taunton.
 Oct. 31, Nov. 1, 2.—**WOLVERHAMPTON**.—J. H. Wheeler, Glen Bank, Tettenhall, Wolverhampton.
 Nov. 1.—**EXMOUTH**.—R. Pearce, Chippenham-gardens, Exmouth.
 " 3, 4.—**BATTERSEA**.—Hon. Secretary, 167, Elsiey-rd., Lavender-hill, Battersea, S.W.
 " 7, 8, 9.—**BIRMINGHAM**.—J. Hughes, 140, High-st., Harborne, Birmingham; F. W. Simpson, Victoria-rd., Birmingham.
 " 8, 9.—**BRISTOL**.—Geo. Webley, Westbury-on-Trym, Bristol.
 " 8, 9.—**CARDIFF**.—H. Gillett, 66, Woodville-rd., Cardiff.
 " 10, 11.—**ALTRINCHAM**.—C. C. Marns, 22, Railway-st., Altrincham.
 " 10, 11.—**ECCLES**.—H. Huber, Hazeldene, Winton, Patricroft.
 " 10, 11.—**HUDDERSFIELD**.—John Bell, Marsh, Huddersfield.
 " 14, 15.—**LEEDS PAXTON**.—James Campbell, The Gardens, Methley Park, Leeds.
 " 15, 16.—**RUGBY**.—Wm. Bryant, 8, Barby-rd., Rugby.
 " 15, 16, 17.—**YORK**.—Geo. F. W. Oman, 38, Petergate, York.
 " 17, 18.—**BOLTON**.—James Hicks, Markland-hill-lane, Heaton, Bolton.
 " 17, 18.—**BRADFORD**.—R. Eichel, Westcliffe-rd., Shipley.

THE NATIONAL CHRYSANTHEMUM SOCIETY.

FLORAL COMMITTEE'S RULES.

THE new rule which recently came into force has, to put it mildly, caused a good deal of "feeling." Rule 4 now reads: "And no certificate shall be awarded to any new variety unless it receives the support of three-fourths of the Committee present; but if not more than ten members, the voting must be unanimous."

On the 28th ult. I sent a basket of plants of a yellow sport from Lady Fitzwygram, and because only eight out of a possible eighteen members had sufficient interest in their work to attend the meeting, the trouble and expense of packing, and sending the plants 200 miles and back again, besides getting someone to attend and stage them for me, is in vain; and I may grow another stock for next September with a like result for all the Committee seem to care. But the meeting of the 10th inst. gave us a bright example of the working of this ridiculous rule. As the N.C.S. has most peculiar ways of doing business, it may be well to give an account of the meeting in detail. At one o'clock, the time appointed, not a member was present; shortly afterwards the Secretary was in his place, later on a few of the Committee joined him; but all must wait to see if the number necessary to do business will attend. The Secretary spots a few stragglers, and calls them to the table.

Only two varieties were presented for certificates. Being interested in one of these, I will pass on to the variety staged by Mr. H. Weeks. Upon its being proposed that a certificate be awarded, a majority supported the proposition, but it not receiving the support of three-fourths of the Committee, the certificate was lost. Then a farce was played. Very few of the Committee were aware of the new rule, and wanted to know when such a "ridiculous regulation was made," &c., &c. Explanation follows, and the proposition for the certificate was put again, and more hands were held up in its favour, but still not sufficient. Now more committeemen appear, and how matters stand is explained to them. Again the proposition is put, and still not sufficient votes to carry it. More discussion follows as to the wisdom or stupidity of the rule, the Secretary insisting "that a rule was a rule, and must be adhered to." Finally, and some thirty minutes late, another member of the Floral Committee was seen to be hurriedly approaching the table, and the blooms are handed to him for his opinion.

Lookers-on now say it would have made no difference had this member been in time, for he never votes and is not a grower of exhibition blooms. Wonderful to relate the Chairman again puts the proposition for a certificate to the meeting. Result, eleven for, four against, and, in the words of a committeeman, "the certificate was lost by a third of a man." Now members express themselves freely and loudly, some saying that they were not going to waste their time in attending meetings and find the opinion of four members is to outweigh that of eleven.

Ultimately, amid high words, the Chairman dissolved the meeting. No one can object to the action of the minority of four, who conscientiously voted against the certificate, although personally I should certainly have voted with the eleven, for I consider the variety was all that a Japanese Chrysanthemum should be, but if all the meetings of the N.C.S. are conducted in such an unbusinesslike way as this was can it be wondered at that there is so much "bad blood" caused? As a protest against such grotesque proceedings it is my present intention not to place any blooms before the Floral Committee for the whole of the coming season.—W. J. GODFREY, *Exmouth*.

SCHEDULES OF SHOWS.

BOLTON.—NOVEMBER 17TH AND 18TH.

The entries for this year's exhibition of the Bolton Horticultural and Chrysanthemum Society must reach the Secretary, Mr. J. Hicks, Markland Hill Lane, Heaton, by November 11th. Curiously enough we find here the sum of £16 10s. and a silver cup offered in four prizes for a group of miscellaneous plants, while the Chrysanthemum group has only £6 allotted for its three awards. It is usually the reverse of this at autumn shows. However, some compensation of this apparent neglect is found in the class for thirty-six blooms, eighteen each of Japanese and incurved, for in this £9 in cash is added to the 20-guinea challenge cup for the best stand. The second prize is £6, and the third £3. For twenty-four blooms, twelve each of Japanese and incurved, there is a 10-guinea cup, with £5, £3, and £2 respectively. These classes are open. There are some capital prizes offered in several of the classes that come within certain stated restrictions, and in which provision is made for fruit and vegetables, as well as Chrysanthemums.

KINGSTON.—NOVEMBER 8TH AND 9TH.

Somewhat late in the year, the complete schedule of this old Society has been issued; but the full lists of classes were issued some time since, so that no one is the worse for the delay in the issue. The executive have dispensed with any challenge vase, as it has proved to be a somewhat costly prize without bringing adequate results. No doubt the new champion class for thirty-six Japs will be much more popular with growers, as these are more easily furnished than are twenty-four Japs and twenty-four incurved. The prizes are in ready money and are valuable ones. Some classes for twelve incurved Japs and for twelve reflexed or tasselled Japs should be well competed in. The group class is this year honoured by having the High Sheriff's offer of 5 guineas assigned to it as a first prize, and ought to bring good competition. The lady amateurs have a special dinner table decoration class for six persons that will no doubt cause considerable interest. The dates for the Show are the 8th and 9th November.

LEAMINGTON.—NOVEMBER 2ND AND 3RD.

The schedule of the Leamington, Warwick and District Chrysanthemum Society, whose Exhibition will be held in the Winter Hall and Pump Room on the above dates, is one of the smallest we have received. It embodies twenty-one classes only, of which one is for ladies, others for cottagers, and the remainder for professional gardeners and amateurs. There are upwards of half a dozen classes for fruit, so that the Chrysanthemum section is perforce limited. Mr. C. A. Smith-Ryland, whose gardener, Mr. Jones, stands in the front rank of cultivators, offers a 5-guinea cup for twenty-four Japanese, distinct, while Mr. Gordon Bland offers a 3-guinea cup for twenty-four blooms, distinct, twelve Japanese and twelve incurved. Money prizes are, of course, given in these and other classes. The Secretary is Mr. F. A. Hinton, Warwick Nurseries, Birmingham Road, Warwick, who will receive entries up to October 31st.

RUGBY.—NOVEMBER 15TH AND 16TH.

Rugby may be regarded as one of the chief fixtures of the Midlands, and this year's exhibition, which is the thirteenth of Chrysanthemums, Primulas, winter-flowering plants and fruits, is fixed for the dates given in the Town Hall. There are open, amateur, and cottagers' classes to the number of about five dozen, and as all sections of growers are catered for, the result should be encouraging to Mr. W. Bryant, 8, Barby Road, Rugby, the Secretary, and to the Committee. For a 9-feet circle of Chrysanthemums and foliage plants, prizes of £3, £2, and £1, are offered, and similar amounts are allotted to the class for twenty-four Japanese, distinct. In each of these, as well as other classes, a special award in kind is added to the first prize by local tradesmen. There are also in other sections classes for groups and cut blooms carefully arranged for the convenience of various growers. Fruit and vegetable classes are comparatively numerous, and the combined display ought to prove most excellent. Entries for the various classes must reach the Secretary on or before November 8th.

STOCKPORT.—NOVEMBER 10TH AND 11TH.

The Stockport and District Chrysanthemum Society has chartered the Volunteer Armoury, Greek Street, for its twelfth Show, and those

who desire to compete in any of the sixty-six classes must send their addresses to Mr. W. Ralphs, St. Peter's Square, Stockport, by Friday, November 3rd. Four prizes of the respective values of £5, £2 10s., £2, and £1 are offered for a group of Chrysanthemum plants in which quality of bloom, variety, and general effect are to be the great desiderata. Specimens of Chrysanthemums and other plants have several classes allocated to them, with money prizes in each instance. Mr. J. Hamilton Leigh, F.R.H.S., offers a silver cup as first prize in a class for twelve Japanese, besides which there are three other prizes. Mr. Henry Bell offers a silver cup for twelve Japanese and twelve incurved, and the winner takes in addition an award of 30s. The second prize will be £2, the third £1, and the fourth 10s. We might enumerate the many other classes did space permit, but schedules and full particulars may be had from the Honorary Secretary at the address given above.

TAUNTON DEANE.—OCTOBER 31ST AND NOVEMBER 1ST.

This West of England Society, of which Mr. J. S. Winsor, 16, Hammet Street, Taunton, is the well known Secretary, provides a capital schedule for its supporters, and usually has a fine exhibition. The dates chosen this year are given above, the entries will be received up till October 25th. With such adjudicators as Mr. W. Herbert Fowler and Mr. E. Molyneux, V.M.H., exhibitors may be sure that the merits of their flowers will be carefully estimated. The principal class is for thirty-six Japanese, distinct, in which the first prize is £3 with the addition of a silver challenge cup, with further awards of £3, £2, £1, and 10s., which should bring forth excellent competition. For a group of eighteen Chrysanthemums £4, £3, and £2 are offered, there being besides these several other classes for plants in pots, cut flowers, Primulas, and fruit.

WOLVERHAMPTON.—OCTOBER 31ST, NOVEMBER 1ST AND 2ND.

The fixture of the Wolverhampton Chrysanthemum Society occupies a prominent position amongst Midland shows, and the displays brought together are usually most interesting. Those who wish to compete this year must send their entries to Mr. J. H. Wheeler, The Gardens, Glenbank, Tettenhall, on or before October 24th. The schedule contains particulars of about four dozen classes, with, in addition, a small section for amateurs. While these are mainly for Chrysanthemums, provision is also made for general plants, fruits, and vegetables. Class 1 is somewhat of a novelty, inasmuch as a £10 silver cup and £4 in cash are offered for the best group of Chrysanthemums with Ferns and foliage plants, but there are, according to the schedule, no second, third, or fourth prizes. There may be some rule referring to this, but there is such a superabundance of advertisements mixed up between the various classes, sections, and rules that if so we failed to find it. In two classes, for thirty-six incurved and thirty-six Japanese respectively, £5 cups are added to the premier awards of £4, the second, third, and fourth prizes in each case being £3, £2, and £1. For further particulars growers must procure a schedule from the Secretary, as above.

AQUARIUM SHOW.

We were unable in our report of this Show last week to include the awards that had been made to non-competitive exhibitors. These medals were:—Gold medals to Mr. H. J. Jones, Lewisham; and Messrs. J. Laing & Sons, Forest Hill. Silver-gilt medals to Mr. S. Mortimer; Mr. W. J. Godfrey, Exmouth; Messrs. H. Cannell & Sons, Swanley; Messrs. Dobbie & Co., Rothsay; and Messrs. W. Cutbush and Son, Highgate. Silver medals to Mr. T. S. Ware, Limited, Tottenham; and Mr. Prewitt, gardener to C. A. Pearson, Esq., Farnham. Small silver medal to Mr. H. Deverill, Banbury. Bronze medals to Messrs. R. & G. Cuthbert, Southgate; and Miss Easterbrook, Fawkham, Kent.

EXHIBITIONS IN THE LONDON PARKS.

The annual Shows of Chrysanthemums at Southwark Park, Finsbury Park, Victoria Park, and Waterloo Park are now open for the public inspection and appreciation. The display at Battersea Park will open on October 25th. We do not expect either of the collections will be at its best until about the end of the month.

GARDENIA THUNBERGI.

ALTHOUGH introduced as long ago as 1773, this plant appears to be little known in this country. The reason for this is doubtless its shy flowering qualities. Early in the present century it is recorded as flowering well in several places, and a figure of it was prepared for the "Bot. Mag." t. 1807 from a plant flowering in Mr. Greville's garden at Paddington. Of late years its flowering appears to have been at very rare intervals, and though it has been in cultivation at Kew for a long period, it has resisted all attempts to flower it until recently. Several plants were planted in a border of loam in the Mexican house two and a half years ago, and one of those plants is now in bloom.

The flowers are produced singly from the ends of the branches. They are glistening white and sweetly scented. They are nearly 3 inches across the top, the eight petals uniting and forming a narrow tube $2\frac{1}{2}$ inches long, which is white like the limbs and sessile on the branch. On strong growing plants the leaves are often 8 inches long, and are very dark green in colour. Age appears to be what the species wants to make it flower; if this is so, and plants could be got to flower freely, it would be a valuable acquisition to the warm greenhouse. It is an African plant, being widely distributed in the central and southern portions of the Continent.—W. K.

THE TURN OF THE TIDE.

YOUNG GARDENERS.

Is it a fact, and the question is asked in all seriousness, that there is at present a dearth of young gardeners? We, on the shady side of the walks of gardening life know, some of us to our cost, that there is a plethora of old ones; still, though it be not our prerogative to enter the promised land of better things, we can view any outlook tending to a better balancing in this direction with a measure of unselfish satisfaction. The question is prompted by a recent interview with a nobleman's gardener, who said, *à propos* of some additional glass he was erecting, that he purposed augmenting his bothy staff by two, but up till then (mid-September) had not been able to get them. When the power of speech reasserted itself after this startling statement, the questions were put to him, "Are you serious? Is it a fact? if so to what do you attribute this phenomenal change?" He was certainly serious, it was a matter of fact, so far as he was concerned, and his theory was that the change was brought about by the absorption of young men into the building and its allied trades. Simple as is the matter, it is rather a momentous one for gardeners, and, correlatively, for gardening, hence that may be sufficient plea for ventilating it in the Journal, whose motto sympathetically interlinks them to the common welfare of both.

Anticipating such reasoning as would resolve itself into regarding the example furnished as being not only an isolated case, and therefore of merely local interest, but the garden one of indifferent character, consequently a matter of indifference to the young gardening world, it must be stated that the garden in question is a good one, the gardener a good one, and a good man to boot. Its young men are well paid, well lodged, and, to sum up, circumstanced as well as probationers could expect to be, and better than many ever experienced. It is as well to add, however, that none but the best—viz., smart, intelligent, well-conducted young men would be acceptable to its ruling head. Perhaps he has found them by this time, perhaps not; if he has, in view of the rush and crush of recent years, there are sufficient signs, one thinks, to indicate a change; and if he has not, then there is more than a suspicion that a strong ebb tide is bearing off our boys to ports foreign to gardening.

In support of the theory that building and its allied trades have checked recruiting in the great army of gardeners, some data to hand may be adduced. Statistics, although accredited—or, rather, decredited—with proving nothing, should at least serve to show in which direction the wind is blowing. The "Financial Times," of September 16th, under the heading "Remarkable Additions to the Wages Bill," in speaking of the changes during 1898, says, "The net result was to raise the wages bill by over £95,000 per week." Gardeners, it is needless to say, have, practically, not participated in that increase of wages, which the paper quoted says affected more than a million men. To make the matter clearer the following quotation may be added, "The bulk of the increase in wages, both in 1898 and in the first half of the present year (which still shows a further advance) is accounted for by the better pay which miners have received, though in the building and engineering and allied trades a marked advance must also be recorded." Putting the digging of dusty diamonds aside as being quite unlikely to affect the question under notice, the remainder endorses the opinion given to the writer, who by mere chance came across the above article.

Further statistics are provided in the advertising columns of "our Journal" for the week ending September 28th. In it there are fifty-six advertising for situations, of which number fifty-three seek head places, the small minority of three representing the young fellows, or, at a rough calculation, 6 per cent. only in the advertising columns for that week. As previously remarked, and too well known, there is no lack of heads, hence the congestion is still as acute; but if high-water mark has been reached, and the tide is really turning, of which there seems to be sufficient evidence to warrant the assumption, fierceness of competition must at no distant date give way to healthier conditions. Those who have put their hand to the plough may, perforce of circumstance, look back somewhat regretfully, but rarely indeed is an attempt made to turn back when the usual turning point in life has been left far behind. It is hoped that no inference may be

drawn from these remarks that anything derogatory to the purest and most practical of human pleasures is intended. Gardeners who know and feel, alas! the serious aspect of the case would be the last to think so. Comparing the heavy tax upon a gardener's time, brains, and muscle with the inadequate remuneration so many receive consequent upon a glutted market, if men's hearts were not in their work, life, if not a physical impossibility without that organ, would, at least, be not worth living.

Born gardeners, there are, of course, but the bulk are made; and of the latter, the great majority, it is easy to understand that higher wages in other walks of life are the dominant influence of attraction. The born gardener seeks but his own, and—and it goes without saying—he will never become bricklayer, mason, carpenter, or engineer. For such, there has been, is, and always will be, ample room, for they are rare. Again, no invidious comparison is implied between those gifted few and the great company of honourable men and good gardeners who adorn the positions they have fought for and won. The difference between them is a vanishing quantity, and finally disappears as life advances. The one is debarred by his hereditary love of gardening from seeking any other means of living, the other is forced into it by circumstances, when that dormant germ, which appears to be implanted in the whole human race, is nourished into active growth, which none of the rusts and blights of later life are able to destroy. There is, then, at this period, little, if any, difference between the born and the made gardener, but there has been a time when a distinct line of demarcation separated the two—viz., the turning point in life where, say, one youth claims his birthright as a gardener, and nine seek their living in the best market within reach, and find it in gardening. With an opening market in the building trade and its allied branches, as well as other phases of life, the present flourishing conditions of our country bring to light, we have, one thinks and hopes, a turn of the tide.

—A. N. OLDHEAD.

SALVIA SPLENDENS GRANDIFLORA.

FOR a showy, free flowering, autumn greenhouse plant, this has few equals, and when grown and flowered as Mr. Hudson of Gunnersbury House gardens does it, no one can fail to be charmed with its brilliant display of flowers.

Although everyone may not meet with the same success as Mr. Hudson does, with ordinary care anyone who has a cool greenhouse may be sure of a good supply of the pretty scarlet flowers for two months in autumn. A sound method of culture is to sow seeds or root cuttings in a gentle bottom heat about the end of February. The young plants should be potted in a mixture of loam, leaf mould, and sand, and as soon as root action has become active, be placed in a cold frame; they should be pinched several times to form a good foundation. As often as the pots become filled with roots the plants ought to be repotted, rich soil being used until they are in 7-inch pots; after this they will require heavy feeding. About the end of May they must be placed outside, where they will remain until they flower.

Plants grown under this treatment make specimens 3 feet in diameter, and bear between thirty and forty racemes of flowers from 8 inches to a foot or more long. Besides being an excellent indoor plant, it is very useful for planting out, the flowers being produced in abundance from early August until frost appears. By rooting cuttings in April or May excellent little table plants in 5-inch pots can be had.

—KEWITE.

RHUS OSBECKI.

THOUGH this plant was introduced from Japan more than thirty years ago, it is not as yet grown nearly so much as it ought to be, which is, perhaps, due to the fact that it is not very striking in a young state, though when older it forms a bold, handsome specimen, suitable either for growing singly on a lawn or in conjunction with other shrubs. It, perhaps, makes a better plant when grown by itself than when cramped with other subjects, for, when once it is fairly established, it grows rapidly, and forms a rounded shrub 15 to 20 feet in height, and as much, or more, in diameter.

A good, fairly rich soil should be provided for it in a well-drained position, where it will not be shaded by anything else, as this plant likes full exposure to the sun. The pinnate leaves are stiffer than those of most of the other members of this genus—though not so stiff as to be ungraceful—and are from a foot to 18 inches long. The leaflets vary from seven to eleven in number, and are oval in shape, sessile, broadly toothed, and covered on the under side with a dense, white wool, which shows to advantage when the leaves are blown upwards by the wind. The petiole between each pair of leaflets is broadly winged, from which this plant has been called *R. semialata Osbecki*, and which is the name it is most commonly known by on the continent.

The flowers open in September and October, and are borne in terminal, branched panicles, 6 inches to a foot in length. The individual flowers are very minute, but are produced in great numbers, and are pure white in colour. It flowers too late in the season to bear fruit in this country.—C.

PLANTING PEACHES AND NECTARINES.

WHERE suitable structures have been erected for the production of these delicious fruits it is false economy to spare pains on the preparation of the borders for the trees, though there may be instances when the natural soil is as good, if not better, than any compost that can be compounded artificially. In such cases trenching the ground 2 feet deep and adding some well-decomposed manure may be all that is necessary, save for dressings of such simple substances as basic slag phosphate and kainit to the surface. But this state of affairs is not general, and, though we find trees succeeding fairly well in a great diversity of soils, there are many exceptions; hence additions have to be made to the soil in many instances to render it suitable for the production of delicious fruits.

Assuming the structure to be adapted in every respect for its intended purpose, we may pass to the border. This must be efficiently drained, the base having an incline to the drain, which should be formed of 3 or 4-inch tiles having proper fall and outlet. In unfavourable subsoils it may be necessary to concrete the base, otherwise it is not advisable to do so, as moisture then has a better chance of ascending, and the roots will not descend if they are properly nourished in the border. Use clean drainage—first a layer of half bricks or rubble, another of smaller, and a third of the size of road metal; these 9 to 12 inches thick collectively, with a 3-inch layer of old mortar rubbish or chalk on the top, will make a very substantial foundation. The old mortar rubbish must be freed from pieces of wood, be rather fine, and passed through a $\frac{1}{2}$ -inch sieve, using that not passing through for drainage, and the fine for mixing with the soil.

Good strong loam is the only suitable material for the border, the top 3 or 4 inches of a pasture with its turf being the best; but well worked rather strong garden soil will grow Peaches and Nectarines well. If the turfy loam inclines to be light, add a fourth of clay marl finely divided, preferably dried and powdered; if very strong, add a fourth of road scrapings. A cartload of wood ashes may be added to twelve cartloads of loam, and about 4 cwt. of crushed half-inch bones. These will supply mineral matter of which turf is generally deficient. If these cannot be had, use 4 cwt. of basic slag phosphate and 2 cwt. kainit, mixing thoroughly with the loam. Lime rubbish may be added to the extent of one-sixth to a tenth, according to the nature of the loam. If ordinary garden soil be used, it will be advisable to add a fifth part of horse droppings or stable manure, freed as far as possible from the straw; if the soil be too light, use cow manure. The materials must be well incorporated and put together firmly when in a fairly dry state. The border need not be more than 24 inches in depth, and for young trees it may be only 3 feet wide, 4 feet 6 inches width accommodating trees trained two or three years to walls, while in any case the border must only be a foot more in breadth than the spread of the roots to begin with.

The best trees for planting in houses are those that have been trained to south walls or trellises in cool houses for two or three years, as, if carefully lifted and properly planted, they will produce some fruit the first season. Plant rather high, as the soil will settle, and the surface dressings will raise the soil correspondingly. The earlier the trees are planted after the leaves give indications of falling the better, as provision is made for the emission of fresh rootlets at once. Supply water after planting, allow it to soak in, and when dry enough firm well, and mulch as far from the stem outwards as the roots extend, or a little more, with a couple of inches thickness of short, rather fresh, but sweetened manure. If the lights are movable, as they were in all Peach houses in my younger days, take them off, and let them so remain until the time of starting the trees. The autumnal rains, winter's fog, mists, rains, and snows, with the keenest frosts, will not do the trees any harm, but benefit them by insuring complete rest, and the thorough moistening of the inside border.

It is now difficult to make selections of varieties, there being so many from which to choose. For very early forcing, Alexander or Waterloo and Early Louise Peaches, Cardinal and Rivers' Early Nectarines. Second early: Hale's Early, A Bec, Royal George or Stirling Castle or Dymond Peaches; Lord Napier, Rivers' Orange, and Stanwick Elruge Nectarines. Midseason: Grosse Mignonne, Noblesse, Goshawk, Bellegarde, and Violette Hâtive Peaches; Elruge, Humboldt, Dryden, and Byron Nectarines. Late houses: Barrington, Princess of Wales, Gladstone, Walburton Admirable, Nectarine Peach, Sea Eagle, and Golden Eagle Peaches; Pineapple, Newton, Milton, and Victoria Nectarines. Unheated houses or wall cases to give a long succession of fruit: Waterloo, Early Louise, Hale's Early, Dr. Hogg, Rivers' Early York, Alexandra (Noblesse), Goshawk, Royal George, Grosse Mignonne, Dymond, Bellegarde, Barrington, Princess of Wales, Gladstone, Sea Eagle, Walburton Admirable, and Golden Eagle Peaches; Cardinal, Early Rivers, Lord Napier, Stanwick Elruge, Humboldt, Dryden, Pineapple, and Victoria Nectarines.

With those or some of them a supply of fruit may be had from early in July to the middle of October or later, and all of the highest excellence.—GROWER.



CYPRIPEDIUM GENO-SUPERBIENS.

THIS *Cypripedium*, respecting which "A Young Orchid Grower" desires some information, is an exceptionally handsome hybrid that resulted, as the name implies, from a cross between *C. cananthum* and *C. superbiens*. It was first exhibited by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, at the Drill Hall, on Sept. 12th, 1893, when the Orchid Committee of the Royal Horticultural Society adjudged an award of merit for it. The prevailing colour is a brownish red, this suffusing the petals and lip. The former are bold and spreading, the latter being somewhat pointed. As shown in the illustration (fig. 67) the dorsal sepal is broad and imposing. It is heavily lined with chocolate dots and suffused with rose margined with white.

SALE OF ORCHIDS AT THE FIRS.

Messrs. Protheroe & Morris have just completed a three days' sale of Orchids at The Firs, Warwick, the total sum realised amounting to £3110, for the collection of the late Major Mason. Amongst the prices obtained were *Cattleya intermedia alba*, £22 1s.; *Cattleya Lord Rothschild*, £36 5s.; *Cypripedium Lawrenceanum* Hyeatum, £76 13s. and £89 5s.; *Cypripedium insigne Dorothy*, £29 8s.; *Cypripedium insigne Sanderæ*, £54 12s.; *Cypripedium insigne Maulei*, £32 11s.; *Cypripedium callosum Sanderæ*, £73 12s.; *Cypripedium insigne giganteum*, £147; *Cattleya labiata alba*, £63; and *Dendrobium Phalaenopsis alba*, £52 10s.

CATTLEYA LABIATA VAR.

GASKELLIANA.

AMONGST the several varieties of *Cattleya labiata* the one here mentioned is certainly not the least worthy of culture. Its flowering period, during the early autumn months, when *Cattleya* flowers are not plentiful, is one great advantage in its favour. Another is that under fairly good general cultural conditions it grows and flowers well each year. I know of plants that have done this for some seasons in an ordinary plant stove where the right temperature during the winter months is at an average of, say 60°, with a rise of from 7° to 10° during the day when the weather is fine and the sun shines.

The plants I allude to are growing in 8 and 10-inch pots, drained with clean potsherds to fully half their depth. The root medium is tough fibry peat, with an admixture of one-eighth of newly burnt charcoal in nodules from the size of a large Walnut downwards. The whole surface is covered with a thin layer of fresh sphagnum. Repotting is done every alternate year; any time in the late spring months before annual growths are made. The flowers are produced from these as soon as they are of their full size.

During the growing and flowering period a sufficient quantity of chilled rain water should be given so as to keep the material they are growing in well moistened. Afterwards it should be kept on the dry side until spring comes round and growths show signs of breaking away from the base of last year's growths. If the temperature of the house they are growing in is kept in a genial condition both as to heat and moisture, insect pests will not give much trouble. Yellow thrips are the worst pest we have to deal with,

and these can be well kept down by light periodical applications with XL All vaporiser.

I am sending you a few flowers cut from a plant grown as described above. They have been open fully a month, hence are, as you will see, fading somewhat. The plant that produced them has not flowered so late in the season before.—H J. C., *Grimston, Tadcaster*.

[Notwithstanding the fact that the flowers were past their best, it was easy to see that they had had size and substance, while the richness of the shades of colour had not yet passed away.]

CATTLEYA AUREA.

This is, in my opinion, the queen of the *Cattleya* family, and one of which, perhaps, many persons have had cause to complain. It has a bad habit of suddenly turning black and going off, and this is

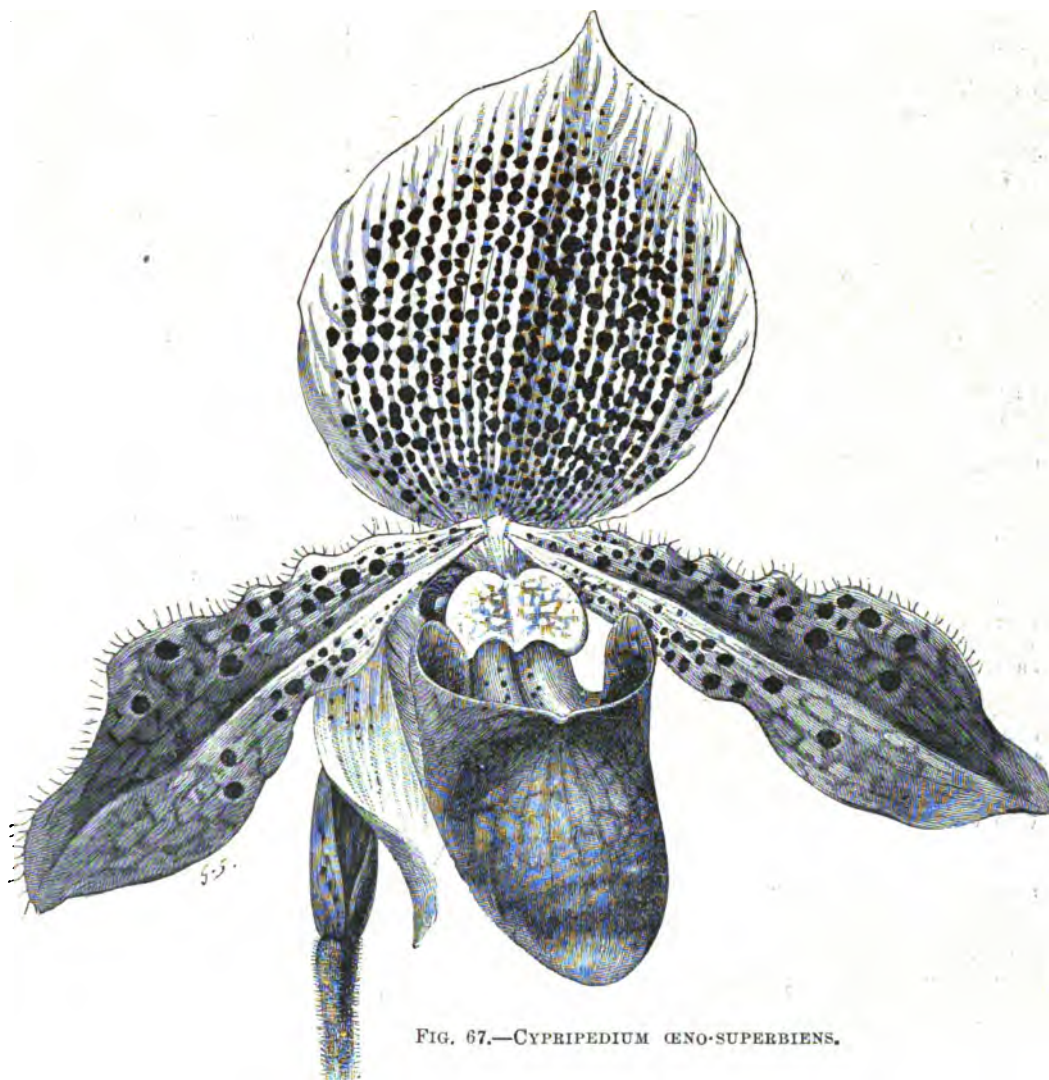


FIG. 67.—CYPRIPEDIUM GENO-SUPERBIENS.

generally to be attributed to too much water. I find this *Cattleya* will do with much less water than the generality of its relatives. Where *Cattleya gigas* succeeds, this one ought to do, as in some localities they grow together, and that is where those two lovely natural hybrids are found—namely, *C. Hardyana* and *C. Maassiana*. As regards compost, this species will succeed in the ordinary *Cattleya* mixture, but should be grown in the warm *Cattleya* house. Water must be applied with great caution, as I am convinced that more disasters are attributable to this cause than any other. I find the plants are much better, and flower more freely, when suspended beneath the roof.

CYPRIPEDIUM MEMORIA MOENSI.

This fine hybrid *Cypripedium* is again in flower, and may be placed with the most select, as undoubtedly it is one of the very best both as regards its flowers and growth. It was raised by the late Mr. J. Moens from uncertain parentage, but undoubtedly *C. Spicerianum* is one parent, and I should suggest some variety of *C. Boxalli* as the other. The dorsal sepal, which is the most conspicuous part of the flower, is very large, obovate, of an intense rosy purple colour,

with a broad median bar of deeper purple and a narrow white border. The petals are rosy purple, with a dark purplish median line, and many lines of spots of a lighter purple, green at the margins near the base, the upper margin undulate and ciliate; pouch wide, shining rosy purple. It will do in the compost often recommended for the green-leaved *Cypripediums*, and may be grown on the shady side of the warm intermediate house. Thrips and other insect pests must be diligently watched for.

MAXILLARIAS NIGRESCENS AND VENUSTA.

These are two useful members of a rather neglected family of plants, both of them producing beautiful flowers freely. They are of easy culture, thriving in the cool house grown in pots in the usual compost. Ample supplies of water when in active growth are required, but much less will suffice when the plants are at rest. Care must be taken not to overwater when the flower spikes first appear, or they will turn black and fall. The former has flowers of rather a peculiar brownish port wine colour, stained with purple, and is in flower with me at the present time. It is rather a quaint object, and generally receives a fair amount of attention from visitors. The latter is undoubtedly one of the best of the genus, and its flowers make a strong contrast to the previous one, being fairly large in size, pure white, with the front lobe of the lip yellow, the edges of the lateral lobes crimson; with two crimson spots on the disc. Both are natives of New Grenada, and worth a place in a collection of cool Orchids.

CATTELEYA LODDIGESII.

This old and useful inhabitant of our houses is still one of the best for producing a supply of flowers during August and September, and a small collection of healthy plants of this species, with the help of *C. Harrisonæ* and *C. Gaskelliana*, will supply flowers which even the most critical will not despise. The better forms have rich rosy lilac sepals and petals, and a light rosy lip marked with yellow. The flowers are borne on good spikes (I have often seen six), and last a long time in perfection. *C. Loddigesii* will succeed in the ordinary Cattleya house in the usual compost, and should be grown in the smallest pots possible. It is extremely useful for table decoration and other purposes.—J. BARKER, *Hes-le*.

ONCIDIUM PUMILUM.

THE name of this pretty plant is descriptive, for it seldom reaches more than 4 inches in height, and produces dense crowded spikes of tiny yellow blossoms. Having no pseudo-bulb, dry winter treatment is distasteful to it; but on the other hand it must not be overwatered, even in summer. Suspended near the glass in an intermediate house in small pans or baskets it is usually satisfactory, flowering annually with freedom. It is a native of Rio de Janeiro, and an old denizen of our Orchid houses.

DENDROBIUM CHRYSOTIS.

THE large loose racemes of blossoms produced by this species should make it more of a favourite than it is, but possibly the large size of the plant prevents many from taking up its culture. It is not unusual for the stems (pseudo-bulbs) to grow 8 feet high, and this in a very short time, so it is not much use to amateurs with very small houses. But where there is room for it it is certainly a noble species, and though the individual blossoms last only a little while in good order, they occur successively over a long season. They are of the brightest yellow, large and fragrant, with two eye-like blotches of maroon on the lip.

A large pot is necessary, as the roots are emitted with remarkable freedom when the growths are about half made. Rough lumps of peat as large as a hen's egg, living sphagnum moss, and plenty of large crocks and charcoal, make the best compost. As soon as growth starts, the moisture supply, which has been somewhat scant in winter, may be sensibly increased, and when rooting freely in a light warm house it is scarcely possible to overwater the plants for a few weeks. Ripen the growth as well as possible, but do not expect the current year's stems to flower. They, however, continue to do so for a number of years.

CATTELEYA GUTTATA.

Although the typical *C. guttata* is very little grown and seldom met with, many of the varieties of this fine species are very popular. The strong growing free-flowering *C. guttata* Leopoldi, for instance, discovered and introduced about the same time and by the same collector who sent home the handsome *Lælia purpurata* to M. Verschaffelt of Ghent, is one of the best of autumn-flowering Orchids, and likely to long remain a favourite kind. Some of the lighter forms, too, as *C. g. lilacina*, are extremely pretty, and I recently received a nice flower of the unspotted form, somewhat paradoxically named *C. guttata immaculata*.

This is not quite so strong in growth as the type, but equally free flowering, the blossoms having self-coloured sepals and petals with a pretty rosy purple lip. All the varieties do well in an intermediate house, and should be given a light, fairly sunny position not far from the roof glass. It is best to use pots or baskets of medium size only for the weaker growing forms, and the cultural routine is much the

same as for the autumn-flowering *C. Gaskelliana*—that is, the plants should be encouraged as much as possible in spring and until they flower, keeping them dormant through the winter.—H. R. R.

CHILWORTH MANOR, ROMSEY.

THIS old and interesting place is situate about a mile from the well-known Red Lodge Nurseries of Messrs. Rogers & Sons, near Southampton. It is on very high ground, that is of a brashy nature, needing many years of cultivation to render it productive, but on which Scotch Spruce, Silver and other Firs grow luxuriantly. Mr. J. W. Fleming, the owner of this property, is doing much to improve and extend the gardens, so that just now the pleasure grounds wear an aspect of change.

But from here, in spite of the stonebrash, have come forth some very fine Grapes, and few growers of these fruits have excelled Mr. Mitchell in the production of that difficult Grape *Mrs. Pince's Black Muscat*. Ere this appears in print bunches of this and some other Grapes will have been seen at the Crystal Palace, but I think the Chilworth samples will hardly have been beaten there. The principal vinery is a lofty span, 73 feet by 27 feet, and is in three compartments. In the first, and on the south-west wall, are blacks, 3½ feet apart, limited to single rows. These are *Gros Colman*, which, however, does not do well; *Mrs. Pince* and *Lady Downe's* being alternated. Of these the bunches are good and finely coloured. On the north-east side are all *Muscat of Alexandria*, excellent samples. In the second compartment are *Black Hamburgs*, all out, and *Madresfield Court*, *Gros Maroc*, and *Muscat of Alexandria*. From the one *Madresfield* have been out ten bunches, all of which won first prizes this season. The other Grapes are good in proportion.

The border has lately been chalked. The compost is chiefly a very stiff loam, lightened by the addition of mortar rubbish, bone dust, and wood ashes, and gets a top-dressing occasionally of guano. In other smaller lean-to houses are *Mrs. Pince*, again carrying superb bunches, *Alicante*, *Madresfield Court*, and *Black Hamburg Grapes*, all really first-rate. It is very evident that Mr. Mitchell can with his limited means grow capital Grapes. He also in the end compartment of his large span, and in lean-to houses, grows Peaches and Nectarines wonderfully well. His fruits of *Sea Eagle*, *Princess of Wales*, *Dymond*, *Royal George*, *Noblese*, and others were splendid examples that it would have been difficult to beat. The trees were as clean and full of robust health as could be desired. In a lean-to house a low wire trellis is covered fully in front, and the wall from top to bottom behind. No trees could look better. The Nectarines grown are chiefly *Lord Napier*, *Violet Hative*, and *Pitmaston Orange*.

There is outside a wall 50 yards long and 7 feet in height, covered throughout with Figs; *Brown Turkey*, *Negro Largo*, *White Marselles*, and others. These produce an immense crop during the season. They are not laid in, as that plan does not answer here. The branches stand out some 15 to 18 inches from the wall, the strongest being occasionally out back. Because it is found that root restriction conduces to fruiting, a trench 2 feet deep is opened about 3 feet from the wall to sever the roots, and is then filled up. This is done every other year. The oldest of the trees have been planted about fifty years.

Apples do wonderfully well. There are some heavy crops in the kitchen garden on somewhat old bush trees, but the best crops were found in a farther enclosed garden, that, once a vegetable ground, had several years since been planted with bush and half-standard trees. Of these are several older standards, and on some low younger half-standards or spreading bushes there were truly wonderful crops of *Cox's Orange Pippin*, of which, for the quantity of fruit on the trees I have yet seen no finer samples. Did the soil throughout the locality grow *Cox's* as this garden does then it would pay anyone well to put down 50 acres of the variety. Here they always bear fruit more or less, though this is the heavy crop year, without doubt. I noticed that some of the heavy-laden bush tree branches had to be held up with props, but then the soil beneath was heavily mulched with long manure, and good soakings of water had occasionally been given. There were also grand crops of many other fine varieties, the names of which I have mislaid, but the soil is evidently such as Apples like, whilst the garden enjoys good protection from the north and east winds.

When looking at the wonderful Crabs on bush trees I saw here, at Sherborne Castle, Forde Abbey, and some other places, and not least some splendid espalier *Prince Alberts* at Hackwood Park, I could but think what an error our fruit nurserymen make in illustrating their lists with representations of young and very imperfectly formed trees from a nursery, rather than of trees several years planted and cropping in the way I have lately seen them. Such pictures as these would convey far more useful information, and prove splendid object lessons in relation to either market or private fruit culture.

Mr. Mitchell grows Arums wonderfully well also, and the several scores of plants I saw there the other day that had been planted out at the end of May, after being divided and had the suckers removed, were remarkably sturdy, indeed no plants kept in pots all the season could produce such great stems as these had. The soil is made good, but only occasional, though thorough waterings given, for frequent waterings were out of the question. The plants will be shortly lifted into pots of various sizes, and will carry fine flowers all the winter. Besides these was a row of seedlings, the plants now ranging from 14 to 15 inches in height. These were from seed, sown in warmth last January, and several had flowered already. This fact shows how quickly Arums can be obtained in that way.—A. D.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.—Present: Dr. H. Müller, in the chair; with the Rev. W. Wilks, and the Rev. G. Henslow, Hon. Sec.

Potatoes, with scab.—A number of samples were received with the descriptions of the manures supplied. They were forwarded to Dr. Smith for examination and report.

Fungus on Chrysanthemum leaves.—Some leaves badly spotted with a brown fungus were received and forwarded to Dr. M. C. Cooke for further examination, who reports as follows: "The Chrysanthemum disease is the 'rust,' which I refer to *Uredo Hieracii*; but I cannot tell for certain until the Puccinia is found. I had it two or three years ago from Slough. It is capable of spreading, and I should destroy all the infected leaves by burning, if sprinkling with Condy's fluid proves ineffective. It is better to sacrifice the entire plants, than for it to establish itself as a permanent pest, like the Hollyhock disease (*P. Malvacearum*), to which it is allied. It is impossible to give the cause, but probably infection from other plants."

Five-merous Eucharis.—A blossom of this plant, with its whorls regularly arranged in series of fives—most unusual for a monocotyledon—was received from Mr. E. Escombe. An examination revealed the fact that it originated in twin flowers coherent. The stem a short distance below the base of the inferior ovary contained very numerous and scattered fibro-vascular cords. Nearer the flower they became thirty in number, and so entered the base of the twin ovaries. These were united by a common wall, in which two of the cords normal to the ovaries were suppressed. Hence the superficial cords were now reduced to ten only. This number, therefore, laid the foundation of the supply for the four whorls (perianth and stamens) of five parts each. Apart from the two united ovaries of three cells each and six rows of ovules in each cell, no trace of the twin-origin was visible.

Chrysanthemum arrested.—Mr. E. H. Jenkins, of Hampton Hill, sent branches of the variety *Madame Desgranges* in which the majority of the flowers were very small, with yellow petals on short stiff branches. There had been great difficulty in expansion from the bud. This was considered to be due to the excessive drought. The later flowers were nearly normal on slender pedicels. It was remarked that various kinds of Chrysanthemums had behaved in the same way elsewhere, as well as other composites, such as *Rudbeckia*. The cultural care had been quite correct, but while one plant was a failure, another in the same pot was normal. Such cases are not uncommon, some individuals succumbing to a disease, while others, under the same conditions, may resist it. Mr. Jenkins asks if the form represents the original type. It does to some extent, being like the double form of the small *C. indicum* cultivated at the beginning of the century, and figured in the "Transactions R.H.S." It shows a tendency to arrest and reversion. The actual cause is obscure, but it would seem to be most probably climatal.

KENT COUNTY COUNCIL POTATO SHIELD.

NOT the least interesting feature of the Farm Fruit Show held at Maidstone on October 10th and 11th, was the section set apart for the exhibits of Potatoes in competition for the above trophy. With the idea of encouraging the culture of the valuable vegetable commodity among cottage gardeners and allotment holders in the county, the Technical Education Committee of the Kent County Council has presented a handsome challenge shield, open to cottagers and allottees who have attended the courses of horticultural instruction given in all parts of the county since 1894. In each case the centre is the exhibitor, and the collection of Potatoes is made up by the members of the classes. The shield is to be put up for competition from year to year, and the name of the winning centre inscribed upon it. On this occasion the Committee asked for eight dishes of Potatoes, to be composed of one dish of white and one of coloured rounds and the same in white and coloured kidneys or pebble-shaped, and thirteen or fourteen centres responded to the call.

In a close competition the men of *Eccles* distinguished themselves as the first winners of the trophy. *Eccles* is a village situated in the Medway Valley, a few miles from Maidstone, and is well known in the county for the excellence of its garden allotments. Individually and collectively the Potatoes in this exhibit were well above the average, and obtained 74 points out of a possible 80. Conspicuous among the varieties were the *Norwich* (9½ points), a fine white round Potato, and *Royal Sovereign* of the same class (7½ points). *Up-to-Date* (9½ points) was well shown among the white kidneys or pebble-shaped, as also was *Reading Giant* (9 points). For coloured rounds the centre depended on *Milton Gem* (10 points), and *Daniels' Longkeeper* (9½ points); and the coloured kidney dishes consisted of *Peerless Rose* (10 points) and *Bashford Beauty* (9 points). *Willesborough* with 70½ points, *Hunton* 70 points, *Yalding* 66½ points, *Ryars* 53½, and *Wrotham* 58½ followed.

It should be understood that the Potatoes in all the exhibits were the productions of cottage gardeners and allottees, and many were the remarks made by the visitors on their general excellence. To anyone conversant with the county the competition was also a means of education, as it was an excellent illustration of the character of Potatoes grown in contrasting soils and localities in the county of Kent.

THE AUSTRALIAN PEPPER TREE.—The Australian Pepper tree, botanically known as *Schinus Mollle*, is one of the most popular shade trees of California. The leaves have been found desirable for decoration by Eastern florists, and a good trade in them with California has sprung up.

THE YOUNG GARDENERS' DOMAIN.

GLOXINIAS.

THE *Gloxinia* is one of our most useful bulbous flowering plants, and during the summer months I do not think anything can excel it for conservatory or house decoration. Although the plants may be had in bloom all the year round, they are, I think, at their best during the months of July, August, and September. In August they are in great demand at our leading exhibitions.

The *Gloxinia* can either be increased by cuttings, leaves, or seeds, and my experience tells me that seedlings are preferable. By care and attention seeds may be sown and the plants be got into bloom in six months. Commence the first sowing by the beginning of February, and follow with another sowing during the last week in April. Great care must be exercised in sowing the seeds, as, I think, many failures are caused at this period. Shallow pans ought to be used, and these should be clean and well drained, with a layer of moss over the drainage.

I find equal parts of peat, loam, and leaf mould, with the addition of a good sprinkling of silver sand sifted through a fine sieve, suits them admirably. The pans should be filled to within half an inch from the rims, pressed rather firmly, giving a good watering with warm water before sowing. Distribute the seeds very thinly, so as not to allow overcrowding of the seedlings, which often causes them to damp. Pans of glass with moss on them should be placed over the pans until the seedlings appear; then remove them, allowing the seedlings to have as much light as possible. As soon as they are fit to be handled they should be transferred to small pots, using the same mixture as before. Place the pots on a shelf near the glass, but shade from any outburst of hot sun, and when they begin to grow in the fresh soil they should be syringed on bright days. When they require more root room put in 4½-inch pots, using the same mixture, with the addition of some dried cow manure.

During the raising and growing periods the plants require a brisk heat, namely, as soon as the seeds are sown the pans should be placed in a temperature of 68° to 72°. When the seedlings show through the soil remove the pans to a temperature from 60° to 65°, which will suit them admirably until they begin to flower, at which stage some growers condemn the use of liquid manure at this stage, as they say it causes the blooms to come deficient in colour. But I have always made it a rule to use a little twice a week, and am of the opinion that it does not interfere at all with their colour, when properly used. As soon as they begin to expand their blooms the plants may be gradually hardened for the conservatory, in which there must be no draughts.

But when the plants have finished flowering, they may be replaced on a shelf in a warm house. To ripen the tubers give a liberal supply of water until the foliage begins to turn yellow; then water must be gradually withheld so as to dry them off for storing in some warm corner. Some growers prefer to knock them out of the pots and store in boxes, but if the pots are not needed I leave them in the pots, and when the season comes round for recommencing I generally start them in their old soil, and pot them later.—W. L., *Kings Weston*.

CHRYSANTHEMUMS.

AT present Chrysanthemums form the leading feature of many gardens. The blooms are always useful, and I thought a few cultural notes might be of service to my fellow readers. There are several different methods for rooting the cuttings, but I shall only refer to those rooted in single pots. The compost for this operation should consist of equal parts of good fibrous loam cut or broken in small pieces, and leaf mould, with a good supply of sand and old mortar rubble broken up fine, or charcoal. No hard and fast rule can be made as to when the cuttings shall be taken, as this depends on the season, but a very suitable period is from the third week in November to the beginning of December if possible.

In securing the cuttings do not use those from the stems of the plants, but from the base, and cut them clear of the soil, not having them too large and sappy, or they will be liable to damp off when confined in the frame. The pots to use for this work are small thumbs thoroughly cleansed and well drained, filling nearly to the tops and made fairly firm. Make a hole in the centre with a dibbler, fill with silver sand, and then with a sharp knife trim the cuttings to a joint and insert them in the pots. There are various opinions as to the most suitable place for rooting. Some prefer placing them on high shelves near the glass, others in places with high temperatures, but a temporary frame fixed in a house which has a temperature of 50° at night will suit all purposes, as they will make sturdy growth as they root. Be sparing with water for a time, lightly syringing on bright days, and if the weather become very sunny it will be advisable to shade a little, but not too heavily. Examine the cuttings daily, and on perceiving any damping, tilt the lights a little for about an hour at midday.

In four or five weeks from the time the cuttings were inserted they should be carefully examined to see if rooted, and those that are must be taken out and placed near the glass in a frame that is heated and facing south, so that they may have more air; never have the frame below 45° at night. Look over the plants daily for water, only giving to those that are in need of it; about midday will be the best time. Be very careful in ventilating, never allowing cold draughts to enter or they will cause a serious check. It will be necessary when the sun is hot to give a slight shade and also a light syringing. There is one very important thing to study about the stock at this stage, and that is, always keep the glass thoroughly clean, or they are liable to get long and slender. Protect them at nights with mats, and if the frost is very severe it is necessary to place some long litter on the top of them.—P. R.

(To be continued.)



FRUIT FORCING.

Vines.—*Early Forced in Pots.*—Where thin-skinned Grapes are required in late March or early in April the Vines must now be started, or placed in position so that forcing in earnest may commence with November. Some growers have a prejudice to Vines in pots, but they produce fruit little inferior in size of bunch or berry to that borne by early-forced, planted out Vines, and it is generally better in quality through the conditions of cultivation being more favourable. Especially is this the case where there is the convenience of affording bottom heat. Success is then certain, the canes being sufficiently strong, thoroughly ripened, duly rested, and of suitable varieties. Of sweet Grapes none excels Black Hamburgh and Foster's Seedling; of musk Grapes Madresfield Court and White Frontignan.

The materials for affording bottom heat ought to be in due course of preparation, two parts tree leaves and one part stable litter being most suitable. To begin with, the heat about the pots should not exceed 65°, augmenting it by bringing up the fermenting materials to the level of the pots, so as to raise it to 70° or 75° when the Vines are in leaf. Only supply enough water to keep the soil moist in the early stages, as excess tends to render the soil sodden and sour, hindering root action, and sometimes resulting in bad colouring and shanking of the Grapes. Vines in pots not intended for early forcing should be placed under cover, an open shed with a north aspect being suitable, and the pots protected with hay or straw from frost.

Early Forced Houses.—Where thin-skinned Grapes are required by April or early in May preparations must be made for starting the Vines next month or not later than the beginning of December, as under favourable conditions five months are required to produce ripe Grapes (of even the early varieties) during the dullest part of the year. It can be done in less time, but the strain on the Vines is so great that they are little good afterwards. The Vines having been pruned in September, the loose bark stripped off, the house may be cleansed, the border top-dressed, and the Vines dressed with an approved insecticide.

Midseason Houses.—When the leaves are all down the Vines should be pruned, any Grapes being cut with enough stem for placing in a bottle of water situated in a cool, rather dry room where they will keep better than on the Vines. This will allow of the thorough cleansing of the house and Vines, upon which much of success or otherwise depends in the coming season. It is better to do this than leave the house and Vines in a dirty condition until a convenient time, which usually is performed badly later from press of other matters, and the pests have time to hibernate in retreats where they cannot be reached by insecticides. Where Grapes are hanging air will need to be admitted on all favourable occasions, and a gentle warmth be maintained in the hot water pipes, so as to promote a circulation of air in dull, damp weather and prevent the deposition of moisture upon the berries. Bad leaves must be removed and the Grapes seen to occasionally for the removal of decayed berries.

Late Grapes.—There is little difficulty in keeping such thick-skinned Grapes as Alicante, West's St. Peter's, Gros Colman, Gros Guillaume, Mrs. Pince, Alnwick Seedling, and Lady Downe's, provided the roof be waterproof, drip avoided, and moisture prevented from deposition on the berries, which can be done by judicious ventilation and gentle warmth in the hot-water pipes. White Grapes, however, except Calabrian Raisin, which has a tough skin, do not keep nearly so well, both Syrian and Trebbiano being in degree only less liable to spot than Muscat of Alexandria and Foster's Seedling, together with Canon Hall, which, when finished so as to hang in good condition till January, is supreme among Grapes.

The great enemy of Muscat of Alexandria and its near relatives is spot, and that of two kinds, one caused by moisture on the berries, and the other by a fungus, which cannot attack the berries successfully till their epidermises are suffused with moisture in a stagnant state—that is, resting (though imperceptible) on them. The means, therefore, of avoiding both is to prevent the atmosphere becoming stagnant; a temperature of 50° is necessary, and air must be given early on fine mornings, with warmth in the pipes to expel moisture and allow of the berries becoming warm with the surrounding air, moisture being kept from condensing on the berries. There must not be anything like a leak in the roof, no mouldy leaves or decayed berries, and moisture kept down as much as possible, that likely to arise from the border being prevented by covering it with dry material, than which nothing answers better than roughly-cut, clean, and dry Wheat straw.

Black Hamburgh and Madresfield Court become red when exposed to strong light or sun when ripe, while Foster's Seedling and Muscat of Alexandria acquire an undesirable brown colour by hanging for a considerable time after they are ripe. This is due to the changes effected in the berries by the atmospheric conditions. The thin-skinned Grapes, therefore, must be kept in a well ventilated atmosphere to protect them from damping by too much moisture or of shrivelling by too little. They can be kept on the Vines until the new year or later, where the houses are constructed upon sound principles, for the securing of a regular

temperature and uniformity of moisture. But where the houses are not drip proof, or the panes of glass have large and badly-fitting laps so that the water hangs in them, and is driven in by winds over the bunches of Grapes, causing them to spot and decay, it is evident that the bottling system must be practised if the thin-skinned Grapes are to be kept sound till Christmas or later.

THE KITCHEN GARDEN.

Forcing Kidney Beans.—With the aid of light shelves, stagings, and the fronts of brick pits in a strong heat Kidney Beans can be successfully grown all through the winter. Seeds should be sown every fortnight or three weeks, or according to the demand. Provide good drainage to 8-inch or 9-inch pots, three parts fill with good loamy compost, sow six to eight new seeds in each pot, and cover with 1 inch of soil. If wanted quickly stand the pots on hot-water pipes, this causing the seed to germinate rapidly; but the pots must be moved to a light position before the plants become leggy. Water carefully at first, supplying more freely after the soil has become well occupied by roots, applying liquid manure when the plants commence bearing. Syringe freely in clear weather.

Salading.—In many establishments a constant supply of salading is needed, and this cannot always be maintained without much extra trouble on the part of those responsible. Both Lettuces and Endive are comparatively scarce, and neither will make much further progress this autumn. The Cabbage Lettuces are the harder, notably All the Year Round, and these may be left where they are. Late sown Paris Cos, however, is not proof against an ordinarily severe frost, and if commencing to heart in will most probably pay for temporarily tying up, lifting with some soil about the roots, and replanting somewhat thickly in beds of good soil in a frame or pit. Protected with mats during frosty weather these Lettuces will keep till midwinter. Only fully grown Endive blanches properly, and the Green Curled should be used first, the Improved Broad-leaved Batavian keeping much later. Neither will keep long if the tips of the leaves are injured by frost prior to lifting. During the next fortnight carefully tie a portion or the whole of the plants large enough to move; lift and replant as advised in the case of Lettuce. Rich moist soil should be packed firmly against the roots, and water supplied in dry weather. Remove the ties from the plants, and cover with lights when the nights are cold. Blanching may be effected by either covering breadths of plants with paper and litter, by tying the outer leaves together, or by removing numbers of plants to the Mushroom house. Failing pits and frames, store a portion of the plants in cool fruit houses or sheds. Strong roots of Chicory placed thickly in pots deep enough to hold them and moved into the Mushroom house soon produce a profusion of well blanched tender leaves. Young Onions are obtained during the winter by sowing seed at once thickly in boxes of soil, and placing these in gentle heat. Mustard and Cress is always acceptable.

Tomatoes.—Comparatively bright open weather, and the fire heat necessary to prevent low temperatures being reached, has been very favourable to the setting of Tomatoes lately. All through the rest of the autumn and winter a genial warmth and a good circulation of warm dry air is needed by plants that are to produce ripe fruits either late in this year or early in the next. Keeping the houses excessively hot and moist causes a soft growth, which is almost certain to become diseased, and the fruit also fails to set under such conditions. Every morning, as soon as the pollen is dry enough to distribute freely, either give the stems of flower bunches a smart tap, or touch over the flowers lightly with a camel's-hair brush or rabbit's tail. Plants already furnished with a good crop of fruit ought to be fed liberally at the roots. Allowing pot plants to root out freely into a bed of moist ashes underneath is a good plan, as it encourages a fruitful growth. The ashes, when well occupied with roots, should have a surfacing of guano or special manure. If the leaves of plants crowd each other, or unduly exclude light from the fruit, reduce them to about half their original size, rather than wholly remove them. Painting the hot-water pipes with flowers of sulphur and milk, and making them extra hot occasionally, is a preventive of disease, and also helps to clear the plants of white fly. The quickest way of getting rid of the latter is to apply nicotine fumes.

Sowing Tomato Seeds.—Those who want few or many plants for producing crops in April, May, and June next should sow seed now. Free setting varieties, such as Comet, Cropper, Champion, and Chemin Rouge are suitable for the purpose, and the seed must be sown very thinly in pans or boxes of light loamy soil. Place in gentle heat to germinate, and before the plants become leggy move the pans to sunny shelves. When the plants are well into rough leaf all may be placed singly in 2½-inch pots and be kept growing in heat, a light position preventing them from becoming weakly.

A FAMOUS BULB FARM.—Though I have on several occasions observed in the columns of the *Journal of Horticulture* most interesting notes of the various bulb gardens of Holland, I do not recollect any special reference to the establishment of Messrs. Van Meerbeek & Co., which, like most of the others, are situated near Hillegom, the Mecca of bulb growers. I was astonished at the scope of the business and the finished manner in which the offices and warehouses are equipped. The grounds cover a great area, and comprise the usual stock of Dutch bulb farms, and I need not, therefore, go into any details. The drying houses, with their provision for hundreds of thousands of bulbs, interested me immensely, they were so clean and well appointed. I should recommend English visitors to Holland to include Van Meerbeek's in their next itinerary.—M. B. R.

THE BEE-KEEPER.

PREVENTION OF SWARMING.

THERE is nothing more annoying in the management of bees, where the bee-keeper works for honey production and not for increase of colonies, than to have his bees swarming incessantly instead of settling down to work. It is a well known fact that if a swarm of bees is placed in an empty hive they appear to work much harder than those that have not swarmed. But if they are returned to the stock from which they came they will often not settle down to work, or will come off again the following day. Whilst they are in this unfavourable condition it is useless to expect a surplus to be stored.

There are various methods of treating them when in this condition so as to have as little loss of time as possible. The best plan, however, is to prevent them swarming, and as we work solely for honey production, we will briefly state how this is done in our own apiary. It is as well to bear the fact in mind, that the greater the number of bees there are in a hive, so will be the weight of honey in proportion to that number. The aim of the bee-keeper should be to keep the bees fully employed in one colony without divisions by swarming. Unity is strength, and it cannot be better illustrated than in successful bee management.

Do not delay until to-morrow, or it may be next week, what ought to be done to-day. Always provide extra room in advance of the bees' requirements; do not place an empty crate of sections on the hive before the brood nest is crowded with bees, or it will have the contrary effect. With a little practice the bee-keeper will soon know when extra space is required.

Free ventilation and shade are most important. Ventilation is best carried out by wedging up the front of the hive, so that the bees may have free access the full width of the floor board. This is one advantage of having loose floor boards. We have sometimes seen the roof removed and the quilt lifted from the super, with the mistaken idea of cooling it. Shade freely during the prevalence of bright sunshine, work on the above lines, and few swarms will come off when they are not required.

THE SWARMING MANIA.

Early swarms were not plentiful, although this made little difference where stocks were numerous, and a surplus was the chief aim of the bee-keeper. The last fortnight of June was dull and showery, and bees made little headway in storing a surplus, although they increased at a rapid rate. With the advent of July came bright hot weather. Strong colonies which were not ventilated and shaded threw off immense swarms, and as is often the case during the prevalence of a high temperature, they flew straight away without clustering.

Bearing on the question of runaway swarms, we may mention a fact that has lately come under our notice. A bee-keeper who had lost all his bees but one weak stock, left the hives full of comb on their stands. Within a few days of each other in July a couple of strong swarms of bees took possession of two of the hives. Where they came from no one knew, as there were no bees kept in the neighbourhood. We do not agree with this system of leaving empty hives filled with combs on their stands, as it may be the means of doing other bee-keepers in the district an injury, as the swarms from their hives are almost certain to take possession of them.

To show, however, that bees do not always choose the best spot to make their future home, we may mention a case that came under our notice recently. On a neighbouring estate a keeper found a strong swarm of bees clustering to the branch of a tree. They were not interfered with, so they built their combs and stored a quantity of honey. They were still in that position the last week in September.—AN ENGLISH BEE-KEEPER.

FRUIT TRAYS.—In large establishments where great quantities of hardy fruits are grown, the storing of the greater portion until it is required for use is a serious problem. Space is almost always limited, and in this respect lies the chief advantage of Orr's fruit trays, which can be stacked in racks made for them, and will then occupy comparatively little ground area, and at the same time admit of ready access to the fruit as occasion requires. We have referred to them before, and do so again now particularly to call attention to the fact that Mr. J. P. White, the Pyghtle Works, Bedford, has taken over the business of the late Mr. Orr, and makes and supplies the trays. Mr. White will be known to many persons as the designer and manufacturer of garden seats, tables, and other furniture.

TO CORRESPONDENTS

- All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 2, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Narcissi for Outside Culture and Marketing (W. M.).—Of the three groups into which Daffodils are divided the following are most generally grown for cutting purposes:—1, *Trumpet*.—Tenby or Welsh (N. obvallaris), Swiss (N. rugilobus), English or Lent (N. pseudo-Narcissus), common double Daffodil (N. telamonius plenus), Italian (N. princeps), Pyrenean (N. major, early variety, and N. pallidus praecox), and Albicans. Ard Righ, or Irish King, Horsefieldi, Empress, Emperor, and Dutch (N. spuris and vars.) are also popular and not costly. 2, *Star* (Incomparabilis).—Sir Watkin, Stella, Titan, and Laedai. Double—Orange Phoenix, Sulphur Phoenix, with, in favourable situations, Campernelle Jonquil. 3, *Poet's*.—Poeticus and var. ornatus, especially the latter; Poeticus plenus, and Silver Jonquil (tenuior). Barri conspicuus is well worth obtaining and increasing as a market favourite.

Providing Bottom Heat for a Propagating House (G. P.).—Of the four modes suggested—namely: 1st, Two rows of 4-inch pipes in a 3-foot wide border surrounded with rubble; 2nd, The same pipes, but in an open chamber covered with slate instead of rubble; 3rd, The pipes passing through a cement trough to hold water, or otherwise, at will; and 4th, without pipes on Rendle's tank system; we consider (and this after experience with all the methods) the third the most satisfactory, as the water is heated more uniformly than by the tank system, though when the water is shallow and the heat has once been secured and the circulation kept up with regularity, there is very little difference between the third and fourth modes. On the tank system the water has to be heated in precisely the same way as in hot-water pipes, there being a division in the tank so that the water flows up one side and returns by the other, an opening being left at the extreme end of the tank for the water to pass from the flow to the return side. By the hot-water pipes in the cemented trough the water is heated equally from end to end. You will need piping for top heat, this and the bottom heat being regulated by valves.

Prices of Apples (J. A. G. C.).—1, Winter Queening, Beauty of Kent, Besspool, Northern Greening, and Normanton Wonder, may now be worth 3s. per bushel, if good uniform samples, but this is hardly the season for such good keeping fruit, which at Christmas time or later would be likely to fetch from 4s. to 5s. per bushel or even more from a dealer. Beauty of Kent is in use from October to February; Winter Queening (Quoining) from November to May; Normanton Wonder (Dumelow's Seedling) from November to March; Northern Greening from November to April; and Besspool from November to March. If you have a good keeping place for the fruits we should not advise their disposal until near Christmas at the earliest, and if kept sound later would bring wholesale 4s. to 6s., or even more, per bushel, as the crop is a short one this season. The price and keeping depends on the fruit. Of the latter we can form no opinion, this being a matter for judgment. 2, Brown Beurré Pears will not keep; they should be disposed of without delay, and may bring from 3s. to 4s. per bushel from a dealer. All depends in this case also on the quality of the fruit. Enormous quantities of Apples and Pears, large and small fruits all mixed together, are sent to the wholesale markets. They are scarcely worth anything. Buyers value such samples by the small fruits, sellers estimating by the large fruits. We were offered 100 bushels the other day by a salesman at 1s. a bushel, and he said he would forward every penny to the sender, and ask him never to send him fruit again.

Book (W. R.).—We know of no book on the subject you mention, though it is embodied more or less fully in several works.

Green Dahlia (W. Booker).—Your specimen is an example of *Dahlia viridiflora*, which is well known, and is grown merely as a curiosity. It has been described by Dr. Masters as an example in which "the bracts of the involucre and the scales of the receptacle had all assumed the form, texture, and venation of the leaves."

Book on Table Decorations (Inquirer).—The most useful book on table decorations with which we are acquainted is published by Chapman, Hall & Co., London. The author is Mr. W. Low, and the price, we believe, about 5s., but of this we are not sure. You can, if in print, procure it through any bookseller on giving the title with the author's and publisher's names.

Spots on Large Apple (Amateur).—The spots are caused by bitter rot fungus, *Glæosporium fructigenum*, but the small black pustules are only developed on one of the larger patches of decay, and not on the other very numerous smaller brownish or blackish spots. Possibly they would appear later, though there is no evidence of this, and the few pustules present have not broken through the epidermis. All such affected fruit should be burned.

Diseased Patch on Small Apple (Idem).—The cause of the diseased part, now occupied by a saprophytic fungus, has been the codlin moth (*Carpocapsa pomonella*), which long ago, in caterpillar form, had eaten its way to the pipe, destroyed two, and then, fully fed, eaten its way out again, to become next spring a pupa. It passes the winter dormant in a silken cocoon located in a dry snug crevice of the bark or similar position, from which the moth emerges at the end of May or early in June.

Hyacinths and Tulips in Pots (J. R. G.).—About six weeks are required for the pots to remain plunged in ashes or cocoa-nut fibre refuse after the bulbs are potted. Sand may be employed. We invert a small pot over the bulb of the Hyacinth, and cover with about 6 inches of cocoa-nut fibre refuse. As both the Hyacinths and Tulips will have grown somewhat when they are removed from the plunging material, care must be taken not to expose them suddenly to strong light or powerful sun, but they must be gradually inured to it, so as to prevent the foliage being damaged. Placed in a light airy position in a greenhouse they will flower in March and April. A suitable compost for potting the bulbs is turfy loam of medium texture broken up moderately fine, to which add a fifth of well decayed manure or a fourth of leaf soil and a sixth of sharp sand. A quart of soot may be added to every bushel of compost, and the whole thoroughly incorporated.

Spots on Apples (W. H. M.).—The spots on both the Ribston Pippin and Old Nonpareil Apples are caused by the "brown fruit rot" fungus, *Monilia fructigenum*, now just pushing the early form of its reproductive bodies (conidiophores bearing in chains, or concatenate, the summer spores or conidia) through the skin. The disease sometimes attacks the flowers and thus finds its way into the core of the fruit; hence in some cases, especially of Pears, they rot at the core, spores being found there and at the top end of the fruit in some instances, but they are actually produced externally, also the resting bodies or sclerotia—small black growths amid the felted mycelia. The most successful treatment is spraying with dilute Bordeaux mixture—namely, 1 oz. of copper sulphate and 1 oz. of quicklime to each gallon of water, (1) just before the blossoms open; (2) as soon as the fruit is well formed, adding 1 drachm (avoirdupois) of Paris green paste to each gallon of the dilute Bordeaux mixture for the codlin moth; and (3) repeat the application twice later at intervals of a fortnight. All infested fruits should be burned.

Apple Grub (W. F. M.).—The Apple grub, we suppose, is the caterpillar of the codlin moth (*Carpocapsa pomonella*), which is probably known wherever the Apple is grown, and the most generally injurious Apple insect. The practice you have been pursuing of using haybands round the stems of the trees, and thus catching many of the moths as they go up to change, and also keeping fallen fruit closely picked up, and we suppose consumed at once, is excellent. Then you ask if Paris green sprayed on directly flowering is over would be of any use. Our reply is in the affirmative, and you may use 1 oz. of Paris green paste to 20 gallons of water as soon as the blossoms have fallen off, or when the Apples are the size of a pea, and before they have turned down on the stem, as some varieties do. In such cases it is desirable, or even imperative, to spray upwards, so as to coat the eye end of the fruit, especially with Pears, with a thin film of the Paris green mixture. A second, or even a third application, ten days or a fortnight after the previous applications, is generally advisable, and, besides destroying the codlin moth, will largely prevent the injuries of the various leaf-eating caterpillars and other pests. Dressing the stems of the trees now with Horne's fruit tree dressing will act well against the wingless moths, but the grease bands will not even catch all of them, as some females find their way up other than by crawling. The grease bands, however, will catch all crawlers attempting passage over them, but what use they can be against the codlin moth is not clear, as they (caterpillars) are now at rest in their silken cocoons. As to your last question, "Do you know if spraying with a solution of caustic soda and commercial potash (pearlash) would destroy the chrysalis of the Apple grub moth on the trees in winter?" we may say that the solution kills the caterpillars in the cocoons reached by it; but the cocoons are often in the crevices of the bark where no solution of the kind can reach them, and unless these are wetted so as to reach the caterpillars inside, they are perfectly safe. The caterpillars do not become pupæ until the spring, but remain dormant, or at least non-feeding in the cocoons during the winter months. Spraying with Paris green is the best preventive, but it is to be remembered that moths have wings, and may come from neglected gardens.

Barometer (H. H.).—We have heard meteorologists say that aneroid barometers are generally unreliable; but this does not appear to be so in your case. We will look into the subject and reply in a future issue.

Clematis Dying Suddenly (New Reader).—It is impossible to give the reason for this without full particulars and specimens. Sometimes Clematis die off suddenly because their union with the rootstock upon which they are grafted is not complete, when the plant collapses altogether. Occasionally the growths die back to firm wood near the base, and is due to some injury to the stem, sometimes caused by slugs, at others by beetles, or by fungus which destroys the tissues, the same as or allied to that causing the collapse of Calceolarias. Some galvanised wire acts corrosively on plants trained on it, which can hardly be the cause of the plants dying off in your case, as some are not affected by it. If caused by the wire, painting with whitelead paint, or other colour of which lead forms the body, is the cure. Clematises do not long remain healthy in soil destitute of lime.

Names of Fruits. — Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (W. F. M.).—1, Round Winter Nonesuch (small); 2, Bess Pool; 3, resembles Small's Admirable, but very small; 4, Hollandbury. The Plum is probably Jefferson, but as we state in the rules above young shoots must be sent to aid identification. (D. H.).—1, Nelson Codlin; 2, a seedling form of the Blenheim Pippin; 3, Pickering's Seedling; 4, Marie Louise d'Uccle. (E. W. D.).—1, Louise Bonne de Jersey; 2, Beurré Bosc; 3, Beurré Diel; 4, Calchasse Grosse; 5, Zephirin Gregoire; 8, Beurré Hardy. (Loughgall).—We have never seen an Apple exactly like the specimen sent. It appears to be a form of the Blenheim Pippin, and if fruits could be grown of the same size, shape, and brilliancy of colour everywhere there would, in familiar phrase, be "money in them." It may, however, be a specially selected example. Be this as it may, it is decidedly beautiful. (A. C. K.).—Warner's King, slightly malformed. (W. B.).—1, Possibly Horned Pearmain; 2, Dutch Mignonne; 3, possibly an imperfect fruit of Lady Sudeley; 4, Winter Greening; 5, Scarlet Pearmain; 6, Kingston Black. (Ignoramus).—1, Wormsley Pippin; 2, Old Nonesuch; 3, Kedleston Pippin; 6, Small's Admirable; 7, Claygate Pearmain; 8, Egremont Russet. Read rules above respecting number of varieties. (W. H. M.).—Herefordshire Pearmain.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (R. B.).—1, Physianthus (*Aranjia*) *albena*; see description and illustration in the *Journal of Horticulture*, February 23rd, 1899, page 149. (R. M. D.).—1, *Begonia semperflorens* "Vernon," also known as *Crimson King*; 2, *Nierembergia gracilis*; 3, *Browallia speciosa* major; 4, *Selaginella uncinata*, popularly known as *S. cæsia*; 5, *S. cuspidata*; 6, *Cyrtoderia rosea*.

TRADE CATALOGUES RECEIVED.

W. Atlee Burpee & Co., Philadelphia.—*Sweet Peas*.
F. Cant & Co., Colchester.—*Roses*.
J. Cheal & Sons, Crawley.—*Trees and Shrubs*.
A. G. Green, Great Horkeley, Colchester.—*Roses*.
F. C. Heinemann, Erfurt.—*Noctulies*.
H. Merryweather, Southwell.—*Fruit Trees and Roses*.
T. Rivers & Son, Sawbridgeworth.—*Fruit Trees and Roses*.
F. Roemer, Quedlinburg.—*Noctulies*.
J. Veitch & Sons, Ltd., Chelsea.—*Hardy Trees, Shrubs, &c.*

COVENT GARDEN MARKET.—OCTOBER 18TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3 0	5 0	Nectarines, per doz.	8 0	6 0
Cobnuts, per 100 lb.	70 0	0 0	Peaches, per doz.	8 0	6 0
Figs, green, per doz.	1 0	8 0	Pears, Californian, case...	6 0	9 0
„ French, per basket...	1 6	8 0	Pines, St. Michael's, each	1 0	6 0
Grapes, black ...	0 6	8 0	Plums, Prune, per sieve...	6 6	0 0
Lemons, case ...	14 0	20 0	„ Californian, case...	4 0	8 0
Melons ... each	0 6	1 6	Walnuts, fresh, bushel ...	20 0	0 0
„ Rock ...	1 9	2 6			

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	8 0	Lettuce, doz.	1 8	2 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb.	0 2½	0 6
Beans, Scarlet, sieve	5 0	6 0	Mustard and Cress, punnet	0 2	0 0
Beet, Red, doz.	0 6	0 0	Onions, bag, about 1 cwt.	4 0	4 6
Cabbages, per tally	7 0	0 0	Parsley, doz. bunches	2 0	4 0
Carrots, per doz.	2 0	8 0	Potatoes, cwt.	2 0	5 6
Cauliflowers, doz.	2 0	8 0	Shallots, lb.	0 8	0 0
Celery, per bundle	1 0	1 3	Spinach, per bushel...	2 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	5 0
Endive, doz.	1 6	2 0	Turnips, bunch...	0 8	0 4
Herbs, bunch	0 2	0 0	Vegetable Marrows, doz.	1 0	1 6
Leeks, bunch	0 8	0 0			

Trade improving.

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums ...	6 0	to 8 0	Lilium Harrisii, 12 blooms	5 0	to 5 6
Asparagus, Fern, bunch...	2 0	2 6	„ lancifolium album	8 6	4 6
Carnations, 12 blooms	2 6	3 6	„ rubrum	8 6	4 6
Cattleyas, per doz.	12 0	18 0	„ longiflorum, 12 blooms	6 0	8 0
Chrysanthemums, white			Maidenhair Fern, doz.		
„ doz. blooms	6 0	9 0	„ bunch.	6 0	8 0
„ yellow doz. blooms	5 0	8 0	Marguerites, doz. bunch.	3 0	4 0
„ bunches var.	0 6	1 6	Mignonette, doz. bunches	4 0	6 0
Eucharis, doz.	6 0	8 0	Odontoglossums	5 0	7 6
Gardenias, doz.	4 0	6 0	Pelargoniums, doz. bunch.	8 0	12 0
Geranium, scarlet, doz.			Roses (indoor), doz.	6 0	8 0
„ bunch.	6 0	9 0	„ Red, doz.	4 0	6 6
Lily of the Valley, 12			„ Tea, white, doz.	2 6	5 0
sprays	15 0	18 0	„ Yellow, doz. (Perles)	4 6	6 6
			Smilax, bunch	8 0	4 6

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	to 8 0	Ficus elastica, each	1 6	to 7 6
Aspidistra, doz.	18 0	20 0	Foliage plants, var., each	1 0	5 6
Aspidistra, specimen	15 0	20 0	Lilium Harrisii, doz.	18 0	24 0
Chrysanthemums, per doz.	6 0	8 0	Lilium lancifolium album	80 0	40 0
Oretons, doz.	18 0	80 0	„ rubrum	80 0	40 0
Dracena, var., doz.	12 0	80 0	Lycopodiums, doz.	3 0	6 0
Dracena viridis, doz.	9 0	18 0	Marguerite Daisy, doz.	8 0	10 0
Erica various, doz.	80 0	60 0	Myrtles, doz.	6 0	9 0
Eunymus, var., doz.	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz.	4 0	18 0	„ specimens	21 0	68 0
Ferns, var., doz.	4 0	18 0	Pelargoniums, scarlet, doz.	6 0	8 0
„ small, 100	4 0	8 0	Physalis, per pot	2 0	4 0



OUR CHAMBERS OF AGRICULTURE

ARE widely spread all over the country, and are, as it were, the active living expression of the farmer's wants and desires. They are valuable institutions, in that they promote a spirit of good fellowship—the council chamber is common ground for men of different views and opinions; a place where free interchange of ideas is encouraged, and where many a useful and happy thought has become action.

We have heard a good deal of late about co-operation, and that unity which gives strength, or really is of itself strength, and we thoroughly believe that the action, the united action of the different chambers, must make some impression on those who hold the helm and guide the good ship "Agriculture." We know, alas! how slow Englishmen are to move; what a time it takes to get even a small measure passed through our Houses; and it is only by constantly urging, and persistent reiteration, that some restriction is removed and some useful law put in force.

We do not think as a class we are exacting, but we do think

we might just claim a little more notice from our legislators, especially from those who are termed "hereditary," because, taken as a whole, they form the great landlord class, and it is to their benefit if wise measures are passed in favour of agriculturists. They are suffering as much from this continued depression as we, and it is their bounden duty to remove, to the best of their ability, all stumbling blocks from the way of hard-working, deserving farmers.

Shall we enumerate a few of the items that have been much under discussion at the meetings of the various chambers during the last few months?

We want legislature to go more fully in'to the tenant right question. We are not all fixtures on our farms, and a change is sometimes most advisable and advantageous. It—the change—would oftener be made if we felt we should not be losers thereby. We have done our best for the land we hold; we have put good money into it and employed plenty of excellent labour; we straightened fences, cleaned watercourses, kept buildings in good and efficient repair, often at great self-sacrifice; we have cropped judiciously and stocked well, and yet when we go we get no thanks and little or no recompense, and in all probability the next man who takes the farm gets it at a less rent and has the benefit of the unearned increment we leave behind us. We want no injustice done to the landlord, but we want justice for ourselves, and a freer hand in cropping and realising our crops. It is not to our advantage to rob the land, yet we are often treated as if we did not practise the very rudiments of honour; as though all the honour was on the side of the landlord, and none on that of the farmer.

Then, again, take the Food Adulteration question. That affects us first, and quite as much as it affects the consumer. We ought to be protected against fraudulent dealers. If we sell milk which is not up to standard (whether there be the addition of water or not), we are heavily dropped on to and fined; but the man who sells us impure cake, manures guileless of tillage properties, and seeds that, if not half rubbish, have a heavy percentage of weed—well, they get off generally scot free. How can we, with our butter and cheese, both pure products of the dairy, stand against the coloured margarine and the "lardy" cheeses?

We ask for the examination by experts of the "dairy produce" landed on our shores by the foreigner, and we should like to see imported meat marked as such. Our meat growers have enough difficulties to contend against without any addition to their burdens, and it is not a fair thing to either the producer or consumer that foreign meat should be sold as English, and at English prices. As for the conversion of American bacon in good English brands, we are constantly seeing isolated cases of imposture exposed. How many, we wonder, are never suspected?

There is a burning question much agitating the public mind just now, and that is the Tuberculosis question. It involves grave issues—the issues of life and death; but we believe ourselves that, like many popular crazes, it is getting a little bit overdone. The public have a remedy in their own hands. Those who are most alarmed. It is an easy thing to boil milk. All germs are killed then, and we really do not believe there is such a tremendous amount of raw milk consumed. It is given in large measure to children, but as a rule in the form of boiled bread and milk, boiled porridge, or baked or boiled puddings. "Grown ups" rarely take cold milk; they usually have had such a surfeit as children that they want no more.

Still, though we think the danger of transmitted tuberculosis is rather exaggerated, we should welcome some measure that would tend to allay the fear of the public, and that would do away with actual loss to the farmer. It seems rather unfair that he should stand all the brunt of the blame and all the loss too. He does not willingly keep diseased stock, and in case of compulsory slaughter he deserves full compensation. We do not often hear of cases of consumption among farm servants, and the rule is that they have milk twice a day, and we are sure they do not follow the great Dr.'s dictum of sleeping with open windows. We fancy this terrible

mortality among infants in towns need not be put down to unwholesome milk, but to the fact that they are usually brought up on no milk at all! Wretched starchy substitutes taking the place of doubtful 1d. milk.

Taxation presses hardly on most of us, but we think the land occupier gets the heavier end of the burden. We know at least that the civil rate collector is ever at our door taking toll of our poor earnings. We think we might be let off a little of our burden, but Parliament has its hands so full that possibly the farmer will be "shelved" for yet another session.

WORK ON THE HOME FARM.

We have had a capital working week. Beautiful sunny days have succeeded frosty nights, and although sometimes the sun has been late in breaking through the fog the latter has generally dispersed by ten o'clock or so. It is grand for sowing and drilling the Wheat, and farmers are hastening to make the most of it.

The frosts are warning Potato growers of the approach of winter, and they too are making haste with the lifting process, for they remember one or two 20° frosts in late October, and once bitten twice shy. It is unfortunate that the deservedly popular and now largely grown Up-to-Date variety is on the best soils in a very green and vigorous condition, and many of the older and more experienced farmers are taking steps to ripen them off artificially; to do this they are pulling the tops and piling them in heaps, for they are too green to burn at present. By the time the tubers in the ground have fastened their skins the tops will be drier and easier to deal with. Up-to-Dates on good soil grow so much haulm that it is almost if not quite impossible to use either digger or plough amongst them until the haulm has been removed.

We ourselves do not like lifting Potatoes before they are naturally ripe, but it is a choice of evils, both uncertain—the risk of frost injury versus possible loss of quality from premature ripening. We should be inclined to risk the frost, for if we escape we have a longer period of growth and consequently a heavier crop, apart from the question of quality; but these older heads are steadily and persistently pulling off off tops, and they are almost always right in the long run.

Potatoes are taking up very light and much smaller than was expected, and they will see higher prices. Reading Giants from selected seed are said to be the best crop this season.

Sheep are now generally on Turnips. The earlier sown roots under the influence of frost and sunshine have ripened rapidly and are quite ready for stocking, but they are poor woody things at best, and very small Swedes are little if anything better, but the late, i.e. July sown Turnips, have improved marvellously, and will be the best crops as well as the best quality. There we have another commentary on the speculative nature of the farmer's business.

Lambs (i.e. hoggetts) are doing better and losses are comparatively small. Care must be taken not to overflush them with rich foods, which overheat the blood. Clover hay no doubt is valuable, but a supply for the lambs until after Martinmas will pay better than bought artificials. Linseed cake is safe at any time. Keep the ewes well now, they will pay for good food during the next fortnight.

LIVERPOOL AND DISTRICT GRAIN, ROOT, AND FRUIT SHOW.—OCTOBER 14TH.

THE North Haymarket is always a great feature on the Show day, and too few gardeners realise how much they miss in not being present at so interesting a function. Here can be seen the finest, and indeed every variety of Potato that is in the market, Beets, Cauliflowers, Carrots, and Parsnips, grain in abundance, and connoisseurs delighted and eager to sample.

Saturday's Show was indeed splendid, and besides the Right Hon. the Lord Mayor of Liverpool, the proceedings were graced by Lord Derby and his son (the Hon. Arthur Stanley, M.P. for the Ormskirk Division of Lancashire), and many leading gentry. The Lord Mayor was well received, and in declaring the Show open spoke of the good it was doing, and a large community like Liverpool could not too clearly understand and appreciate the close connection there was between commerce and agriculture, as commerce could not well flourish if agriculture was in a depressed condition. He wished the working classes had remained on the land in the country, instead of crowding into the towns. Lord Derby met with a splendid reception, and after a careful scrutiny of the exhibits he had come to the conclusion that every support should be given to such a show. The farmers of England had a great deal to contend with in adverse climate, low tariffs, and foreign competition, and unless the farmer availed himself of the best skill and the best appliances he would be left behind. But English farmers were active and intelligent, and they would be prepared to meet all comers. Shows like this would prove useful to them, for here they could see what was best, and profit by the lessons they received.

To deal with all the prizewinners would fill the *Journal*. Such Potatoes we have rarely seen, and as one visitor remarked, they were in a way almost preferable to flowers and fruit, and when seen in such amazing numbers left an impression not easily effaced. All green vegetables were capital notwithstanding the peculiar season, and the display was perfect. Apples large and brilliant in colour were in abundance, and a splendid set off they were to the other exhibits. Pears too were well represented, and all those who are acquainted with the genial Mr. Ben Ashton, gardener to Lord Lathom, Lathom House, will be glad

to hear that in the midst of so great a competition he carried many notable honours. The President (Mr. Robert Bennett) and the joint Hon. Secretaries are to be highly complimented for their untiring energy.—R. P. R.

FEN FARMERS IN A FIX.—The dearth of rural population is making itself felt among the Fen farmers, who are unable to obtain sufficient hands to pick Potatoes, though wages have been repeatedly advanced. Around Spalding a man, with wife and family assisting, can make £2 to £3 a week Potato picking. At Crowland erriers have been sent round for female hands, to whom 8s. per day is offered, and at Holbeach children are receiving 2s. 6d. per day to work in the Potato fields. Consequent upon a heavy crop farmers' difficulties are accentuated.

SCRAMBLE FOR SMALL HOLDINGS IN LINCOLNSHIRE.—The demand for small holdings in the southern part of Lincolnshire continues, notwithstanding the low prices which obtain for agricultural produce. Those having small farms to let experience no difficulty whatever in securing a tenant; on the contrary, they are frequently inundated with applications. As an instance of this, it may be stated that one estate agent who advertised a farm of 20 acres, received no less than sixty applications for the place, which, it is anticipated, will readily let at 42s. an acre. Some of the applicants, says a northern contemporary, have even offered to pay half a year's rent in advance.

CLOVER FOR MANURE.—In the report of Dr. Wm. Saunders, director of the Dominion Experimental Farms, he says:—"The experiments which have been conducted in the growing of Clover to plough under to enrich the soil and add humus to the land have shown that Clover can be sown with Wheat, Barley, and Oats without lessening the grain crop for the current year. They have also shown that when 10 lbs. of Red Clover seed is used per acre, sown with the grain, and a fair catch is the result, the Clover after the grain is cut makes a vigorous growth, serves the purpose of a catch crop during the summer, gathers a large quantity of nitrogen from the air and stores this up in its leaves, stems and roots; that the roots range far and deep to gather food, going deeper than most other plants can go, and converting considerable quantities of unavailable plant food into available forms. The stores of nutritive material so gathered are, when the crop is ploughed under, of great advantage to the land and add materially to its fertility. The experience of another year has added fresh testimony along this line and confirmed these conclusions."

ARE FERNS POISONOUS TO STOCK?—This is the question suggested by a communication which appears in one of the veterinary journals over the signature of an F.R.C.V.S. This gentleman describes the loss of a bullock from poisoning induced by the consumption of Ferns, though the particular Fern which caused the trouble is not mentioned. When the affected animal was first seen it was found suffering great distress, largely due to what the writer describes as "cutaneous hemorrhage." As a result of this hemorrhage there was an extensive effusion of blood in the vicinity of the larynx, and at six points on different parts of the skin drops of blood were found oozing. On post-mortem examination the animal showed that in about twenty places this cutaneous hemorrhage—that is an escape of blood through the skin—had taken place, and on removal of the skin several blood vessels were found charged with a black, tarry-looking blood. The Ferns are said to have been consumed by the animal because of the scarcity of other green food resulting from the severe drought in the part of the country in which the accident took place.—("Farmers' Gazette.")

PEAT MOSS LITTER.—The advantages of peat moss litter are now well known, and its superiority over straw fully recognised. It is claimed for moss litter—1st, That it affords drier and healthier bedding for horses and cattle than any other material. 2nd, That in consequence of its great power of absorbing moisture, it binds the valuable portion of the animal excrements, and, consequently, yields the best manure. 3rd, That it acts as a disinfectant and improves the air of the stable. 4th, That a smaller quantity of it is required than would be needed if straw were used. 5th, Dry beds and dry fresh air, free from ammonia—the ceilings, walls, and trappings remain free from moisture and mould. 6th, Moss litter absorbs eight times its own weight of urine, whereas straw absorbs only three. If properly treated moss litter is far more elastic than straw, and affords more comfortable bedding. From a veterinary point of view further advantages are observable. Catarrhs of the nose and eyes, generally the result of bad air in the stables, are less frequent; wounds in the legs heal more quickly, inflammation very seldom occurs, and rotting of the frog is almost entirely prevented.—("Irish Homestead.")

SKIM-MILK EXCELLENT HUMAN FOOD.—Skim-milk contains nearly all of the food value of the original milk, with the exception of the fat, and even this may be present to the extent of from one-tenth to 1 per cent. It contains from 3.5 to 4 per cent. of protein, about 5 per cent. of milk sugar, and 0.8 per cent. of ash or mineral matter. Its chief value is as a muscle-making food, and hence it is of great value to growing children or labouring people. Its economy as an article of diet can best be shown by comparing it with other foods. Twenty-five cents will purchase six and a half times as much total nutrients and five times as much protein in skim-milk at 2c. per quart as in sirloin steak at 22c., or four times as much total nutrients and three and a half times as much protein as mutton shoulder at 15c. per lb. Or 3 quarts of skim-milk, worth from 6 to 8c. at retail, will hold more total nutrients and more protein than 1 lb. of steak. At the present prices the only common food materials that will furnish more protein for a given sum of money than skim-milk are beans, wheat flour, oatmeal, cornmeal, and salt cod.—PROF. C. S. PHELPS (in "American Agriculturist")



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Journal of Horticulture.

THURSDAY, OCTOBER 26, 1899.

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FRUIT TREES IN POTS.

SLOW indeed is the progress made by many new and important truths. Before they can gain general acceptance that innate conservatism that so closely rules the heart of many has to be overcome, at the expense of the sacrifice of old ideas long and fondly cherished. There may not be any strenuous opposition to be encountered, but the deadly inertia of indifference has to be fought, and the difficult task of arousing at least some little enthusiasm for the new idea must be achieved before it is likely to have a fair trial, and become the subject of that more general consideration, study, and experiment that it must receive before being accepted as an established truth. For centuries men believed that the earth was the centre of the universe; he would have been regarded as mad who was bold enough to suggest that the earth is as insignificant a part of the whole universe as is one single grain of sand of all that goes to make up the ocean's bed. When Copernicus, in the sixteenth century, proclaimed to the world the motion of the earth and planets round the sun, thus humbling the earth from its previous lofty place at the centre, his discovery was received with scorn by the Church. The best astronomers accepted it, the theologians all rejected it, and he himself was excommunicated. Later on Galileo was arrested, imprisoned, and persecuted by the Inquisition, the Church having declared as false and heretical any writings declaring that the earth moves.

It is now many years since the late Mr. Thomas Rivers began so eloquently by his writings to advocate the culture of fruit trees in pots, and so well by his own successful cultivation to exemplify and justify the principles that he advocated. So long is it that we can scarcely consider this a new development at the present time. Though we now observe it only in its infancy, yet its growth for a long time has been sure, if slow, mainly on account of the consistent support it has always received from the great Sawbridgeworth establishment. Nor can we wonder at the tardy recognition of this new system of culture when we consider

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the great difference between the new and comparatively untried and the old and well-known method. In the former the roots are confined within the closest limits, and there is the frequent repotting and consequent root disturbance, not to speak of the many and small trees, none keeping out the light, or the continual watering in the growing season; in the latter there is the almost unlimited root room, the infrequent root disturbance, the watering in occasional heavy doses, and the few trees, each covering a large surface of the available glass, or wall, and darkening the house to the detriment of any other occupant.

I have to confess that until a few years ago I was amongst the many who looked upon the writings of the late Mr. Rivers as very good in theory but not so sound in practice, but as soon as I began to test the system experimentally, I was converted to the contrary view, and as year by year my opportunities of adopting it have increased, my opinion in its favour has been strengthened. My experience of this mode of culture extends over some few years; we have eight divisions here now devoted to fruit trees in pots, and from very small beginnings in 1894, the number of trees has year by year increased until we now have about 1000 fruiting annually, Peaches, Nectarines, Cherries, Plums (see representation of The Czar on page 353), Apples, Pears, and Figs, so that I am quite justified in forming a definite opinion. I have proved the system to my entire satisfaction. In what follows nothing will be stated that has not come within the compass of my own practice or immediate observation.

It was at the suggestion of Mr. Leopold de Rothschild, himself an enthusiastic lover of gardening, and in possession of a good knowledge of the practical details of the subject, that I first entered upon this system of fruit growing. Mr. de Rothschild had noted the fine displays that have on so many occasions been made by Messrs. T. Rivers & Son at the Royal Horticultural Society's annual exhibition in the Temple Gardens. He saw that there must be some merit in the system, and he left it to me to work out as well as possible for our purposes here.

By an orchard house in its most primitive form we should understand a large wooden shed with a glass roof, and perhaps a little glass on one or more sides, but with no provision for heating. Even this is a very valuable adjunct to fruit culture, on account of the protection it affords in the spring and summer, and by means of it good crops of Plums, for example, would be insured on almost every tree in any season. If only a little heat can be afforded, just sufficient to keep out the frost, it is of course a great advantage, as the orchard house can then be used for wintering plants that will not withstand the frost. Of course the orchard house that we see nowadays is a great advance on the original type. It is generally wide, long and lofty, very light, and provided with extensive ventilating apparatus; but an elaborate and expensive building is quite unnecessary.

The construction should be as simple as possible. Ours are very plain, well-built structures, so placed and arranged as to receive the maximum of light and sunshine. They are all constructed on the span-roof principle (never adopt the half-span roof for an orchard house if it can possibly be avoided). Some are 18 feet wide, others are 24. The former have a pathway through the middle, and are 9 feet 6 inches in height at the centre, falling to 4 feet 3 inches at the sides; the latter have two pathways, one on either side, and are 10 feet 9 inches in height at the centre, 5 feet at the sides. Only one size of glass is used on the roof; each piece is 20 inches wide and 15 deep. Rather less than half of the entire height of the sides is of glass. Below the glass the sides are of wood, excepting the three or four courses of brickwork that form the foundation. Part of this wood is in the form of large ventilators running the whole length and width of the structure, opening simultaneously with one motion, and hinged below, thus opening from above, outwards, turning round an axis just above the upper course of bricks.

This system is found to work splendidly. It causes the air to descend on entering, and the cold air as it comes in gets warmed to a certain extent through the proximity of the hot-water pipes, which are

arranged round the sides of the structure in such a way that this air must pass near them. The top ventilation does not extend the whole length, but occurs at equal intervals, occupying about one-fifth of the total length in all.

Although the mode of construction is in most respects the same in each orchard house, the arrangement of the hot-water piping is different in the structures of different size. In the larger ones the pipes are all laid on the ground, but in the smaller the outer pipes are arranged one above the other and in close proximity to the ventilators. In addition to the details mentioned hitherto, each range is provided with a rain-water tank of large capacity, which collects the water from the roof.

A good house, adequately provided with heating apparatus, can be used for many other purposes than that for which this type of building was originally intended—the insuring of annual crops, where frequently they would be either partial or non-existent on account of spring frosts, in the case of fruits that can be successfully ripened out of doors in favourable localities. For example, the early forcing of Peaches and Nectarines is now carried on in them with excellent results, which promise to have a far-reaching influence on the more orthodox methods of culture at present in vogue. Not only can they be used for the early forcing of fruit trees of many kinds, but a second crop can always be obtained in the same house by bringing in a fresh stock of trees from other houses where they have been grown at close quarters with one another during the earlier stages, as soon as those that have been forced have been removed outside when the last of the early fruits have been gathered. This is a powerful reason why orchard houses with pot trees should be preferred to large trained trees put out in permanent positions, when a continuity of fruit is required.—JAS. HUDSON, *Gunnerybury House, Acton.*

(To be continued.)

PROPOSED NATIONAL GRAPE TROPHY.

THE proposition of Mr. Buchanan (page 272) with reference to a national Grape challenge cup, would, I believe, receive the hearty support of Grape growers, if, as Mr. Buchanan suggests, liberal money prizes were offered in addition to the trophy to meet out of pocket expenses, which, with Grape showing, I find a serious item. By including Shrewsbury, with the Royal Caledonian and Royal Horticultural Societies, additional interest would be taken in the competition. I fear that we must not look for much support from the Royal Horticultural Society, judging by the manner in which the Grape prizes were cut down at the recent Palace Show. I shall look for Shrewsbury to lead the way.—WM. TAYLOR, *Tewkesbury Lodge, Forest Hill.*

RESPECTING the national challenge cup for Grapes, and speaking from an acquaintanceship with exhibitors of thirty-six years standing, I must say that I do not think there would be much competition after the first year or two, as gardeners usually say the larger classes are for two or three exhibitors. I do not expect there would be many of the great Grape growers exhibit in Scotland from England or *vice versa*.—T. BANNERMAN, *Blithfield, Rugeley.*

THE proposal for a national cup for Grapes I think an excellent idea. Why not have a cup to be won in one year at Edinburgh, Shrewsbury, and the Crystal Palace successively, the exhibitor who gained the highest number of marks to be the winner? I do not at all agree with the plan of having to win a cup, say for two years, before it is your property. I think it ought always to be decided in one year, for many reasons. Why not try and get up such a cup? I am sure you have sufficient influence to do so. All three Societies would no doubt help, for it would be of great interest and an attraction to any of the shows. Many gardeners would, I feel sure, subscribe to such a friendly contest. I for one should be glad to add my mite.—JAMES SMITH, *Mentmore, Leighton Buzzard.*

I THINK the suggestion for a national cup a very good one, but to have the competition at the Crystal Palace and Edinburgh, as proposed by Mr. Adnitt, under the management of the Royal Horticultural Societies of England and Edinburgh. I should like to see a friendly

contest of that nature, and I am convinced that both Societies would gain considerably by it.—W. MITCHELL, *Chilworth Manor, Romsey.*

As a cultivator of the Vine, and a competitor in the champion Grape class at Shrewsbury, I have been interested in the discussion between Mr. Molyneux and Mr. Crump, and I must honestly confess I thought (if I showed Muscat of Alexandria in this class) I should be disqualified by showing any one of the other four. The wording of the schedule says six distinct varieties, and if the Committee did come to the conclusion that Bowood Muscat, Charlesworth Muscat, and Tynningham Muscat were distinct from Muscat of Alexandria, it is a mistake, as I consider the four named Grapes synonymous. The only distinct Grape in this class from the other named is Canon Hall Muscat, which can be shown as a distinct Muscat, along with any one of the others.

I am much interested in the challenge cup question, and I can see no reason why such a Horticultural Society as Shrewsbury should amalgamate with any other to produce a cup. Everyone knows the financial state of this Society, and if its managers think fit, they can produce a cup, and call it what they like. For example, the clause might run the "Shrewsbury International Challenge Cup" for twelve or sixteen bunches of Grapes, to be competed for annually at Shrewsbury. The employer of the gardener who wins the cup to have it in his care for that year. If the suggestion is adopted, I hope to see growers from Ireland included in the national contest.—A. KIRK, *Norwood, Alloa, N.B.*

I HAVE every sympathy with the proposal, as I consider it would make gardeners in general take a much more active interest in Grape growing if there were such a prize to be competed for annually. I fancy that when the Shrewsbury Committee first intimated their intention of giving such valuable prizes many a gardener started the season with the avowed intention of being the champion Grape grower of 1899, and although only six entered the lists, I know for a fact that many more had the competitive fever in the earlier part of the season; hence its value to Grape growing.

Regarding the proposed competition being of an international character, nothing could be fairer than that the Exhibitions should be held alternately in London and Edinburgh. I would suggest that the cup become the property of the person winning it three times, not necessarily in successive years. This I consider would add additional zest to the competition, as witness how keenly the Chrysanthemum challenge cups are competed for. I also think that a certain number of varieties of Grapes should be listed, say nine varieties, and out of that list of varieties the number wanted should be taken, say six varieties, that all mentioned should have a value in points put upon them, and not all classed as of one value. All Grape growers know how much more difficult it is to produce a fine bunch of Alnwick Seedling than, say, an Alicante or a Gros Maroc; also that quality should get much more consideration than it is the custom at present.

I do not know what the difference of opinion is between Mr. Molyneux and Mr. Crump regarding the Grape class at Shrewsbury, but my reading of those conditions was that Bowood, Charlesworth, Tynningham, and Canon Hall Muscats were all synonymous with the Muscat of Alexandria, as much so as Gros Maroc and Cooper's Black.—R. CAIRNS, *Balruddery, Dundee.*

I THINK the Grape cup class a very wise suggestion, and as the Shrewsbury Committee was the first to start the thing, I do not think it ought to be taken away altogether. I should therefore propose competing for it alternately in London, Edinburgh, and Shrewsbury; also that the class be made clearer. I mean with regard to the Muscats. I should say only allow two varieties, say Muscat of Alexandria and Canon Hall, as I do not consider the others sufficiently distinct. I should propose also a smaller class for growers who cannot compete in the big class, say for six bunches, three varieties, to include one variety of White Muscat. I do not think it will be very difficult to raise the £100 proposed. I shall be glad to subscribe my mite.—A. H. HALL, *Collar House, Prestbury.*

I AM much in favour of the proposal to have a national Grape cup, also that the competition should be held alternately in London, Edinburgh, and Dublin. In the event of an international exhibition being held, for instance, at Shrewsbury, Glasgow, or Belfast, I would suggest the competition should take place there instead of at the first named cities. I consider the Crystal Palace Fruit Show late enough to exhibit the bulk of our best Grapes in first-class condition, and would say that the dates should not be earlier than August 20th, and not later than September 16th. I do not think there would be any difficulty in raising £100 for the cup. However, the most serious

consideration is the money prizes, which should be of a substantial character, so as to give an impetus to Grape growing generally. The idea has occurred to me that a National Grape Association might be formed for that purpose.—J. W. McHATTIE, *Strathfieldsaye.*

THE proposal to offer a challenge cup for Grapes is a matter that should be taken in hand by the Royal Horticultural Society. To insure a good competition and a corresponding amount of interest, the trophy should be of exceptional merit, and must be accompanied with a liberal supply of cash, the second, third, and after prizes being equally liberal. This would insure gardeners living at a distance from the place of exhibition making an effort to compete, the expenses of exhibiting at such a competition being necessarily heavy.

To render the competition of more national interest it would be necessary for the R.H.S. to choose the centre each year in different parts of the country, taking London, Edinburgh (and if sufficient interest could be aroused in Ireland), Belfast another year, while Shrewsbury and other places might in turn be taken if necessary.

The societies to whom the cup was relegated might probably be induced to offer the cash prizes, which would relieve the R.H.S. from any additional expense, they, of course, in turn, finding the "necessaries" for their London competition. Should the competition for such an important event arouse a wide-spread interest, the societies would certainly reap the benefit in gate receipts, and ought in turn to offer liberally.

The trophy should also be of sufficient size to be of decorative use, and also to admit of the gardeners' and employers' names being engraved on it each year. I would also suggest that the Societies in London, Belfast, and Edinburgh might confer as to the best means to procure subscriptions towards the trophy, and what support the proposal would have.—A. MAXIM, *Heckfield Place, Winchfield.*

I AM in hearty sympathy with the proposal to establish a national cup for improving the cultivation of the Vine. I should vote for Shrewsbury and Edinburgh to be the towns for the contest to take place in alternate years. I think these Societies deserve the honour, as I am of opinion that they have done more for the advancement of horticulture than any of the London Societies. I consider the classing of the Grapes at the last Shrewsbury Show to be quite proper, such as making no distinction between Cooper's Black and Gros Maroc, also confining Muscat of Alexandria to one variety.—DAVID MURRAY, *Culzean Castle, Maybole, N.B.*

I QUITE agree with the opinions expressed by your correspondents that a challenge cup for Grapes would add immensely to the interest taken in Grape cultivation, and also to the popularity of the Societies in the two capitals. I shall be pleased to do what I possibly can to further the project, and trust that it may be successfully carried out.—JAMES DAY, *Galloway House, Garliestown, N.B.*

[We have still several other excellent communications on this subject.]

SAINTPAULIA IONANTHA.

AMONGST the more recently introduced stove plants, the above named one may fairly claim to be one of the most useful and interesting. Moreover, it is not at all difficult to grow and flower to perfection. It might fitly be described as an alpine stove plant, so modest is its general appearance and blossom. It is a native of the Usambara Mountains, in East Africa.

When fully grown the plants are not more than 6 inches in height. The foliage is somewhat similar to a Gloxinia, but much smaller. Its flower stems are about 4 inches high, each one at their points bearing a number of beautiful blue flowers, somewhat similar in size and colour to some of the larger single Violets now grown. Each flower has quite a number of prominent yellow stamens, which add much to its beauty.

We have several plants growing in 3 and 4-inch pots that have been in flower continuously since last May. I have counted as many as fifty flowers open at once on some of them. They are potted in a light sandy compost, such as is used for the general run of softwooded plants. Propagation is either by seed or the older leaves of the plants. If seed is used, it must not be sown too deeply, as seeds are small. When leaves are made use of they should be broken off at their bases and laid on the surface of a pan of light soil, and pegged down with a small wooden peg. In a few weeks' time the larger veins on the under sides will have callused and formed rootlets, from which a tiny plantlet will spring up. Gloxinias were propagated in this way some years ago, before such good strains of seed were obtainable as we now have.—H. J. C., *Grimston.*

DECORATIVE OUTDOOR FRUITS.

WITH many plants, more especially hardy trees and shrubs, there are two seasons of beauty—spring and autumn; spring with its wealth of bright flowers, and autumn with its glories of scarlet, yellow, and orange coloured fruits. Outdoors, from the beginning of September to well on into the new year, a constant succession of fruits of various colours is maintained, many of which are quite as handsome as a display of flowers. The gorgeous hues of the berries of the Mountain Ash and the Hawthorn are surpassed by many of their near allies, and the scarlet haws of the wild Roses are second only in beauty to their flowers. There is, however, one drawback to these brightly coloured fruits, and that is the fact that birds are very fond of them, and will soon strip a tree of every fruit, leaving only the bare stalks to show what has been. Blackbirds, thrushes, and jays are great offenders in this respect, though the ubiquitous—and iniquitous—sparrow can also play his part in the work of destruction.

There are many Thorns which are worth growing for the beauty of their fruits alone, a few of the best of which are *Crataegus coccinea*, a North American species, with bright scarlet fruits of a medium size; *C. coccinea* var. *macracantha*, a form with very long spines and clusters of small scarlet fruits; *C. mollis*, from the United States, with large crimson fruits; *C. punctata*, also North American, with large bright red fruits about the size of Crab Apples, and its var. *xanthocarpa*, with yellow fruits. The Cock's Spur Thorn, *C. crus-galli*, with red fruits, and its var. *splendens* with fruits of a bright scarlet colour; *C. tanacetifolia*, with large yellow Apple-scented fruits; *C. orientalis*, pale red; and *C. orientalis* var. *sanguinea*, with deep ruby-red fruits, are also very showy, and are all easy to grow. *Crataegus pyracantha* and its var. *Lelandi* are both well-known plants which are very attractive to birds, except when on the wall of a dwelling-house, or a place where someone is moving about.

Of *Pyrus* there are several species which have brightly coloured fruits, notably *P. baccata*, the Siberian Crab, which is laden every year with its bright scarlet apples; *P. Ringo*, from Japan, a yellow-fruited Crab; *P. Aria*, the well-known White Beam Tree, and its numerous varieties; *P. lanata* (*Sorbus majestica*), a Himalayan species, with large corymbs of brilliant scarlet fruits, probably one of the best for outdoor effect; and *P. Maulei*, from Japan, with yellow fruits, which are not very decorative, but are worth growing for their sweet scent.

All the *Cotoneasters* are charming plants when in fruit, but the best are *C. frigida*, which forms a plant 12 or 14 feet high, laden with bunches of bright scarlet berries; *C. rotundifolia*, about 4 feet high, which carries its brilliant red fruits until the spring; and *C. horizontalis*, a dwarf spreading plant with small red berries, which is charming for rockwork.

The *Roses* are all very showy in the autumn, the haws of the Dog Roses and the large flattened crimson fruits of *Rosa rugosa* being well known. There are three others which are distinct enough to be mentioned, viz., *R. pomifera*, a European species, with large deep crimson fruits, which are covered with black bristly hairs; *R. macrophylla*, from India, with large scarlet inverted pear-shaped fruits; and *R. nutkana*, from North America, the fruits of which are red and yellow, and ripen late.

Although not brilliantly coloured, the round flat fruits of the Hop Tree, *Ptelea trifoliata*, have a certain beauty of their own, being borne in great numbers, and are of a greenish-white hue, but look white when in the full sunlight. *Magnolia tripetala* has large upright fruits of a bright crimson colour, which are freely produced in this country, and form with its large leaves an uncommon, and at the same time a pleasing spectacle. In a shrubbery or any odd corner the Spindle Tree, *Euonymus europæus*, makes a good show in the autumn with its deep scarlet fruits, which on expanding show the bright orange coloured arillus of the seeds.

The Sea Buckthorn, *Hippophaë rhamnoides*, is a charming plant on the banks of ponds, or any place where it will not be too dry; but as the two sexes are on separate plants, care must be taken to plant both together, or none of its brilliant orange coloured fruits will be produced. These fruits remain on the plant until March or April of the following year.

Where room can be found in the garden for them, a plant of each sex of *Ailanthus glandulosa*, the Tree of Heaven, should be grown, as when in fruit it is a brilliant sight, with its large clusters of long winged fruits, covering a tree 60 or 70 feet high. These fruits turn to a beautiful vermilion and yellow hue in the autumn, and make a conspicuous object when lighted by the rays of the sun.

There are many other hardy plants which are beautiful when in fruit. Some of the *Berberis*, notably *B. Thunbergi*, are worth growing for autumn effect, but mention has only been made of a few of the best, and those which can be depended on for a display in most seasons.—C.

GARDEN JOTTINGS ON AN AUTUMN DAY.

THE scene is changing, and the last lingering gleams of summer are slowly fading away. Out in the Kentish fields there is a good deal of chaos and disorder inseparable with the season. No longer do the clusters of ripening Hops hang from the poles, and the canopied vistas of graceful foliage are gone for another year. Instead of order and beauty in the Hop gardens, heaps of withered bine and bundles of poles lie pell-mell, waiting for the straightening process. Clusters of hoppers' huts, which for the past few weeks have represented animated villages, are now tenantless and empty, and on the main roads leading Londonwards may be seen troops of returning workers with little loads of worldly goods behind them, cheeks browner and healthier, and, let us hope, pockets heavier than when they emerged from the metropolis a few weeks ago. Many contradictory statements have appeared in the papers lately respecting the crop, but a large grower speaks of it as a record crop for forty years, and informed me recently that he hoped to realise nearly a ton to the acre.

But let us look in the flower garden; there can be no doubt that the end is drawing near, and a peep amongst the branches overhead shows the summer's green slowly changing to autumn's gold, though as yet the ripening tints are only faint. There is a look about the flower beds that is suggestive of having left them to their fate, and the reign of the bedding plants is nearly over. But there is no need to repine, for so brilliant has the display been all along, that it seemed a shame to spoil the beauty of the beds in order to obtain the necessary cuttings. But it had to be done, and the bright sunny summer has given to the old bedding *Pelargoniums* a new lease of favour. At one time the tuberous *Begonia* looked like supplanting it, but recent experience has proved that in a dry summer we cannot dispense with *Pelargoniums* in favour of *Begonias*.

But the brightness of the garden is by no means over, for on the grass under the trees the leafless autumn *Crocuses*, or *Naked Boys* as the natives call them, are sending up their pretty pink flowers, and long borders are aglow with *Dahlias*. It is gratifying to see how the *Dahlia* is increasing in popularity, particularly the *Cactus* section, and the favour is by no means confined to the affluent. It has long been a working man's flower, but the interest that was once centered in the large Show section has been extended to the *Cactus* varieties, and in many cottage gardens pleasing collections may be seen. There are a few disappointments, because some sorts have a tendency to hide their flowers among the foliage, which proves that it is not always wisdom to select varieties from the show board without having some knowledge of the habit of the plants. Very useful for decoration are the white starry flowers of *Chrysanthemum maximum*, and I must here say a good word for that most useful annual, *Chrysanthemum segetum*, which is one of the few annuals which come in with the Stocks, see the entry and exit of the *Asters*, and keep the *Dahlia* company to the end.

The herbaceous *Phloxes* are yet beautiful, and the *Kniphofias* and Japanese *Anemones* still remain with *Michaelmas Daisies* following one another in succession as long as autumnal days last. I have no room to particularise, but no herbaceous garden can be considered complete without a selection of *Michaelmas Daisies*, some tall and conspicuous, and others dwarf and so small flowered as to be almost insignificant, and yet there is not one without its share of grace and beauty. Some of the early flowering *Chrysanthemums* are bright and showy, such as *Madame C. Desgranges* and *Lady Fitzwigram*, but we are yet anticipating the brightest display, for a few favourable autumns have been incentive to wider planting out of doors.

It is with feelings of anticipation and hope that one turns into the Rose garden at this time of the year, for there is always a possibility of finding one of those beautiful autumn flowers which never fail to charm. One morning it was an *A. K. Williams*, a charming flower, and all the more welcome because this variety has never done itself justice under the tropical summer sunshine. Though there is an uncertainty about finding a flower now among the *H.P.'s*, we turn to the *Teas* with confidence, and herein lies the charm of this section. You never know when you have finished with the *Tea Roses*, and last winter, some weeks after Christmas, a friend handed me a lovely *Anna Olivier* for a buttonhole which he had just cut from the garden. Another phase of Rose beauty lies in a bed of *Rosa rugosa* which has done flowering long ago, and in their place there is a wealth of bronzy yellow seed pods that are even more charming than the flowers themselves.

On walls, arches, and arbours there are signs that summer is at an end, for *Ampelopsis Veitchii* is assuming a yellow tint, the *Traveller's Joy* is wreathed with its fluffy plumes, and the berries of *Crataegus pyracantha* are daily becoming redder. I fain would wander on and make observations in the kitchen garden, which has interests of a utilitarian character, and thence to the orchard and fruit quarters, where ripening Apples show rosy cheeks amid leathery leaves, but the editorial pruning shears forbid.—G. H. H.

LONDON GARDENS OVER FIFTY YEARS.

No. 14.

We left the reader of our last article in a central part of Chelsea, standing where Oakley Street enters the King's Road, with Albert Bridge in view on the south, and to the north rising the tower of what used to be called Chelsea New Church. This reminds us of the improvement carried out during 1887, when the four acres attached to St. Luke's were, at a cost of £4000, converted from a gloomy, insalubrious churchyard, into a pleasant, well-kept garden. Oakley Street cuts across the old nursery ground of Rolle, one of the many Huguenot gardeners who settled about Chelsea, and have left descendants in the locality, their names oddly altered sometimes.

By an old and honoured resident, Mr. Phené, who is skilled in antiquarian lore, Oakley Street was planted with trees in 1850. It is stated to be the first London thoroughfare so adorned. This was seen by the Prince Consort, and, in consequence, a row placed along the front of the Kensington Museum soon after. It must have been rather before my time when Paultons Square was built, beyond Church Street, on what was originally the garden of Danvers House. Part of the old wall yet remains, and while Mr. Shepard, or Shepherd, had the ground for a nursery, he unearthed some of the ruins of the mansion. Lord Danvers, about 1618—20, laid out his principal garden in the Italian style, supposed to have been the first example seen in England.

Rectors of Chelsea, during the good old times, had a fine extent of glebe land, between 40 and 50 acres, but then of course this did not bring in much, when used for pasture only. The garden attached to the rectory house was extensive, especially the kitchen garden, authority to lease which was obtained by means of a special Act in 1870. There yet remains a pleasant garden around the quaint mansion of very mingled styles and uncertain age. Here, for some years past, the worthy rector has allowed "Chelsea Flower Shows" to be held, designed to encourage the growth of flowers by cottagers.

Going a little farther along the King's Road we pass on our right the spot where the Vale Nursery was; I do not know whether this really dated back to the time of the French refugees, of late years it was well known under the management of Mr. Tebbutt. Writing upon the "Village of Palaces" a few years ago, Mr. Martin expatiates on the beauty of the remnant of Old Chelsea in which this nursery is situate. "Turning down a rural lane," says he, "we stroll into the Vale, and find a clump of cottages grown about with greenery; flowers blow freely, cocks crow, and an air of country unconcern covers the place." No longer is it so, for the nursery was cleared in 1884, the trees and plants removed, the greenhouses pulled down, to make way for the builder. From the Vale Nursery many plants went to the Royal Horticultural Society's exhibitions, and Mr. Tebbutt obtained various prizes, amongst them for his Giant Musk and Lilies of the Valley—very suitable to the spot.

Elm Park Gardens, to the north, now the abode of some celebrated men, is on the border of Chelsea. This fine park was cut up, and the mansion pulled down, in 1876, when part of the trees had to be felled which gave the later name; at one time it was Chelsea Park, before that Wharton Park. Its handsome avenues of Elms must have been planted soon after most of the Mulberries were removed, which figure prominently in its history. Probably some of those trees still flourish in other places. For a good while there was a notion prevalent in England that rearing silkworms and producing silk on a large scale might pay well, and sundry experiments were made. One of the latest of these was at Chelsea Park, its light dry soil and slight elevation being thought suitable for the Mulberry and the worms. Hence a joint-stock company was formed in 1718; one John Appletree is mentioned as a leading promoter, and it was calculated that £14,000 could be easily made yearly by silk. Perhaps it would have been well for Mr. Appletree if, taking a hint from his name, he had spent his money on fruit culture that would pay, rather than on rearing silkworms. It is said about 2000 Mulberry trees were planted in the park. I fancy this is an exaggerated statement; however, in a few years the project had to be dropped, and Elm Park shortly after became a private residence, the mansion being built by Mr. Broomfield, a surgeon. The best known tenant was Sir H. Wilson.

Long indeed is the list of famous medical men who made Chelsea their home, and several of them are linked with the horticultural history of the place. Ashburnham House, now defunct, recalls two of these. It has gone, but we have the name preserved in Ashburnham Road and Nursery. This mansion was erected by Dr. Hoadley in 1747; it was near the Thames bank, and had a conservatory "built in the antique style," whatever that might be. Its grounds of 10 acres reached to the King's Road. The doctor planted a large number of shrubs, especially those with showy flowers, such as the Orange and Magnolia. Subsequently the property came into the possession of the Ashburnham family, hence the name, but it is doubtful whether any of them ever made it their home. Then Dr. Cadogan had the house for a short term, and planted in the gardens a quantity of medicinal species, many uncommon.

Other changes followed, till, in 1862, the grounds were opened as a popular resort; this did not answer, and a portion was cut across by new roads, and then built over, but a part fortunately was reserved for nursery purposes. The place was, however, little important till it came into the hands of the late Mr. J. W. Wimsett. That would be about forty years ago; since the progress of the nursery has been steady, and the establishment, under the title of the Royal Ashburnham Park Nursery, has had for its leading feature the promotion of domestic floriculture. The decorations and displays to be seen from time to time at Buckingham Palace, also at many club houses and mansions, testify to the skill of its present proprietors. Its Palms and Ferns have been special objects of admiration. Of the old Ashburnham House there yet remain the rock garden and some of



FIG. 68.—PLUM THE CZAR.

(See page 350.)

the statuary. When Cremorne Gardens were closed a slight addition of land was made to one side of the nursery, beyond which, near Stanley Bridge, formerly stood Ormson's horticultural works, where now we see a timber yard.

Before we reach its site, as we pass along the King's Road, the din of the factory of Messrs. Weeks & Co. rises above the sound of street traffic, telling of a brisk trade in their particular line. Chelsea has also, in Danvers Street, the firm of James Gray & Co., long renowned for greenhouses and garden apparatus. But the name of Weeks carries us back to the early years of the century, while Chelsea was still a mere village. It was in or about 1816 that Mr. E. Weeks is stated to have commenced a nursery at West Chelsea, north of the King's Road, Mr. Bull's houses being now on a part of the ground; here he was assisted by Mr. Parkinson. Some years later he had taken a plot of land between Church Street and the Vale, opposite Shepherd's nursery; its position is marked by the factory of Messrs. Ransom and Co., also by the houses of Hortulan Place. There it was Mr. Weeks

took his first patent for improvements in horticultural buildings, and soon after a second for his plan of warming conservatories by hot water, next the nursery turned into a factory. After a while the business was removed to the present position lower down in the King's Road, where was once Moore's nursery, joining that of Davey.

During 1845 Mr. J. Weeks built, on the ground of the original nursery, the structure fronting the King's Road, and other houses, now, with additions, in the hands of Mr. Bull. The fame of his establishment is almost world-wide, and many countries have contributed to his show of new and rare plants, especially California and the far West. This nursery has had a series of successes. We might take a sample from 1876, when at the International Exhibition of Brussels Mr. Bull received three gold medals and five silver or silver-gilt, and his new Palm, *Pritchardia grandis*, and his *Dracæna Goldieana*, were reckoned amongst the gems of the display. It was the same year he introduced a beautiful variety of *Lilium auratum*, with blooms over a foot in diameter, of various tints of red. Then, the year following, he showed the variety *L. neilgherrense*, a magnificent and fragrant species, having large and numerous flowers.

We pass on to the establishment of Messrs. Veitch & Sons, Limited, who are now owners of the Royal Exotic Nursery, in West Chelsea. Our mention of them last does not imply any inferiority, for the establishment is an important one, and it has a very memorable history. The name it first had was the "Chelsea Botanical Nursery," attributed to Mr. Knight, by whom it was commenced as far back as 1808. Previously he had been head gardener to a gentleman at Clapham, and some plants from his houses helped to start the nursery. Nearly every year witnessed an increase in his buildings and stock; after 1845 a nephew, Mr. Perry, was associated with him. Conifers were a leading item, and also American ornamental shrubs; then a large trade was done in fruit trees. A glazed passage, connecting the Fulham Road entrance with the old frontage, was an improvement of 1850. Shortly after, Gray and Ormson built an aquarium, which was the first of that size and make. The square of the tank exhibited the *Victoria Regia*, one end being reserved for species of *Nelumbium*, *Papyrus*, and tall aquatic plants, the other held various *Nymphæas*.

This nursery was taken by the Messrs. Veitch in 1853, and the firm has made a unique record during these forty-six years. Though a branch nursery, which Mr. Knight had at Battersea, called Brooklands, was given up, the firm has taken additional land elsewhere. Fruit trees are cultivated on the ground in Peterborough Lane, Fulham, also near Coombe Wood is a nursery for hardy trees and shrubs. Two spaces, still larger, at Slough and Feltham, are devoted to raising outdoor trees and plants, also others, in houses, which will not thrive near the smoke of London.—J. R. S. C.

VIOLETS AT BOWDEN HILL.

In most gardens Violets suffered much from the heat and drought of the past summer, and in one instance that has come under my notice they have failed so badly that it means a very serious loss to their owner, who largely depends upon them for his livelihood. Red spider also was responsible for much injury.

At Bowden Hill, Chippenham, the residence of H. J. Harris, Esq., however, the Violets never looked better than they do this season, and already many bunches of well-developed flowers have been gathered. Mr. W. Penton, the able gardener in charge of these gardens, is invariably successful with Violets, both single and double varieties, annually filling a range of pits and numerous frames with the latter. Such a grand stock of plants as he has lifted and stored this season are almost certain to produce abundance of extra fine blooms. The single varieties, including the old Czar, Princess of Wales, and others, have dark green leaves, and the blooms are borne on stalks 4 inches to 8 inches in length.

The soil at Bowden Hill is very sandy, but to all appearances retains its moisture better than heavier clayey land. For Violets it is freely dressed with half-decayed horse manure, and in addition a liberal surfacing of ashes and charred refuse from a slow fire, which is kept almost constantly burning, is also forked in. Where it is employed the plants lift much the most satisfactorily, the roots clinging to it tenaciously. It is worthy of note that the doubles have been planted on the same breadth of ground for five years in succession.

Both singles and doubles are planted out as early in April as possible. The old plants are all dug up, pulled to pieces, and only well rooted young crowns replanted. The singles placed 18 inches apart last April now touch each other. Runners are kept picked off, all except Princess of Wales, as in this case runners produce flowers freely in the spring. Watering such large quantities of Violets on a sandy soil would be a great undertaking, and the plants have succeeded admirably without it; surface hoeing, however, was freely resorted to.—RAMBLER.

THOUGHTS ON EXHIBITING GRAPES.

WE have had several able reports and criticisms on the Shrewsbury Show, many of which have borne particular reference to the Grape classes. I propose now to give some thoughts and ideas of one who was absent. First, I say that in a summer show, where as many as six varieties of Grapes are required, a week's notice is too long. In the case of plants and many fruits it is different; they do not change so much in a week, and two or three collections of plants more or less in a big class would make a considerable difference in the space. But space taken up by Grapes, which on an average is a square foot for each bunch, is so easily calculated that I think there should be an endeavour made to give growers three days longer to decide.

Some varieties of black Grapes colour rapidly—notably Alnwick Seedling, a very telling sort in a large collection, which sometimes colours perfectly in a week from the time the first tinge is seen; indeed, if it does not colour in a fortnight it will not colour perfectly at all. On the day of entry my Alnwick Seedling was not half coloured, but on the day of the show it was a perfect blue black, not fully swollen, perhaps, or perfectly ripe, but very handsome. Had I entered I must have shown either this variety or Canon Hall, and as I interpreted the schedule, the latter variety would not be counted distinct from the several aliases of Muscat of Alexandria, although in berry it is nearly double the size, and is a fortnight earlier. It was decided not to enter.

Now as to the idea of using plants as decorations between and around the Grape stands. Two or three writers have given a favourable account of it, and wish to see it carried still further. They will, of course, say that those who have not seen are not competent to judge of the effect. Well, then, I have a practical objection. The prizes are offered primarily for the highest culture in Grapes, and in a case of very close competition it is conceivable that this object may be defeated. Suppose, for example, with my Grapes I gain fifty points, and my nearest opponent gains forty-eight points for his Grapes and six for his decorations, while my decorations are only credited with three points, he would beat me by one point, and gain the coveted position simply because he had, or was able to beg, borrow, or buy a few eighteenpenny table plants slightly better than mine, and high culture in the fruit would be out of the running.

I have my ideas, too, in the matter of taste, but will not intrude them on your readers, except to say that the champions of the so-called decorations of the Grape stands ought by the same logic to turn their attention to the plants and flowers. Say, for instance, that they insist on Mr. Cypher's hardwooded Heaths and Orchids being decorated with Grapes and Apples. If these were neatly tied on they would claim a large amount of attention. I hope my suggestions are not too late for the Committee to take this hint into their serious consideration when compiling their next schedule. If this is found to answer, the idea might be extended still further, and make what the confectioners call a "macedoine," and I, in my vulgarity, term a hotch-potch all round. Although not at the show, I followed up the reports very closely, and saw the photo of the prize collection in the Journal. What an insult was given to the splendid example of Muscats there depicted. Painting the Lily would be a laudable act compared with it.

After this little grumble I wish to highly congratulate the Shropshire Society and its Committee on their well deserved and splendid successes, and to thank them to the best of my ability for the great stimulus they have given to horticulture. There has been a tendency of late years for the public to worship bulk at the expense of quality, and this has been reflected too much at our shows; happily one society at least is attempting to give each its proper value. The idea of judging by points and publicly exhibiting them is a good one, as it imposes a necessary check on even the best judges, who though they can generally tell at a glance which exhibit is of the highest merit, do sometimes make a mistake. This is corrected in point judging by forcing them to place a value on every item separately.

There are two other varieties of Grape equal in quality to Muscat of Alexandria, and I should like to see them given an equal number of possible points. These are Black Hamburg and Madresfield Court, neither of which to my mind has yet been cultivated to perfection. I have seen many bunches of Muscat of Alexandria as near perfection as I think it possible to get them—in fact, two or three times I have seen a house of this variety nearly reach that point. But not so with the two other varieties mentioned, although, as some of your older readers are aware, I have seen some good ones.—WM. TAYLOR.

APPLES IN THE CARSE OF GOWRIE.

"Come down and have a crack about the Apples." Such was the cordial invitation received some time ago from that well known and excellent pomologist, Dr. Robertson of Errol. We had never had the pleasure of inspecting any of the "Carse" orchards, and therefore all the more readily availed ourselves of the genial Doctor's kind invitation. The weather was all that could be desired as we set off by rail from Perth, catching glimpses of many rosy cheeked Apples still hanging on the trees despite the mighty efforts of King Boreas the previous week to shake them off. Arriving at the quaint village of Errol we received a hearty welcome from our genial host, who at once prescribed dinner as the very best thing previous to Apple inspection. Being accustomed to "obeying the doctor's orders," we were soon seated around the loaded table partaking of Mrs. Robertson's hospitality.

The first item on the programme having been duly and satisfactorily discussed, we sallied forth into the orchard situated in the rear of the house. Here we found ourselves veritably surrounded with Apple trees of all descriptions grown in a variety of different forms, dwarf bushes, tall trees, trained some on espaliers, some on arches, each and all bearing tokens of good care and cultivation. Of variety there appeared no end, and to give anything like a list of the sorts grown would occupy too much of your valuable space. One or two which seem to do especially well, however, might just be mentioned. Alfriaton the Doctor speaks very highly of as a first-rate cropper and keeper, and an Apple to be relied upon; Lass o' Gowrie, a grand early variety, taking on a beautiful colour; Fair Maid of France, also handsome; Annie Elizabeth, Warner's King, Dumelow's Seedling, and Tower of Glamis, are all sure croppers of first-rate quality. Court Pendu Plat finds favour, and was highly spoken of as useful and reliable. King of Pippins, Cox's Orange, and Cox's Pomona also prove very satisfactory, the two latter especially producing beautifully coloured fruits. Many others might be enumerated, as the Doctor's collection contains most of the more popular and useful varieties in cultivation.

One thing we must refer to in passing, and that is Dr. Robertson's style of pruning his trees—"compound cordon" he calls it. To commence with, the requisite number of shoots are selected, six, eight, or more as the case may be, and these are pruned hard in, and only a leader retained, and thus a tree is formed consisting of a number of branches studded with spurs. The trees looked like a number of Vine rods standing stiff and upright, at least this was the case with those trees from which the fruit had been gathered. Many of those still carrying their crops were bent almost to half a circle by the weight of their luscious burden. The advantage claimed by Dr. Robertson for this style of pruning is, that the wood being more exposed to sun and air gets all the better matured, and consequently better adapted for fruit bearing. In reply to my query, "Do you manure your trees much, Doctor?" "Oh, yes, we would not get such crops year after year unless we did." A heavy dressing of manure is spread on as soon as the fruit is all off, and left on all winter, and what remains is just pointed in early in the spring. Briefly speaking, this worthy pomologist seems to attribute his success to sun and air to the branches and manure to the roots.

We next called at Errol Park, the beautiful residence of Sir William and Lady Ogilvie Dalgleish, who take a lively interest in all that pertains to the welfare of Errol and district. The gardens attached to the mansion are of good size, and are ably presided over by Mr. Maxwell, who seems to take a deep interest in all under his charge. Hastily running through the glass structures, which are numerous and well stocked, we noted a number of very healthy looking Carnations in pots, and also very promising Cyclamens, strong and robust; the staging on which they rested was covered with moss, and to this cool moist base Mr. Maxwell attributed his success. In a long corridor running the whole length of the principal range we observed a grand stock of Chrysanthemums just beginning to show colour, and which will doubtless make a good display in due time.

Ferns in another house clearly testified by their healthy deep green fronds that their wants were being duly attended to. Two were especially noteworthy—*Adiantum Farleyense*, grown in quantity in small pots for table decoration, the plants doing exceedingly well; the other was *Gymnogramma schizophylla*, of which there were several baskets, real pictures of health and beauty. Certainly with regard to these two Ferns Mr. Maxwell seems to have found out the secret of success. Grapes, Peaches, and Tomatoes are also well grown, and several houses devoted to their culture, but these we must leave for a glance at the Apples.

Many of these had been stored, and the fruit room was furnished with excellent examples of many of the best and most popular varieties, such as Ecklinville, Peasgood's Nonesuch, Betty Geeson, a most prolific bearer; Loddington, Stirling Castle, and Mère de Ménage. Unfortunately we did not make a note of the varieties, and memory oft proves fickle. Leaving the fruit room, we took a hasty look round the kitchen garden, which was well stocked with the usual occupants.

A quantity of cordon Pears on the walls were especially interesting, many of the trees carrying fruits of exceptional merit. Time would not permit us, however, to examine these minutely, as we had to hurry on; the short afternoon was passing quickly, and we had still to visit Tay Park, which is situated at the opposite end of the village.

This is a veritable Apple farm, which would take a whole day to thoroughly see, so we informed Mr. Brown that our time being limited we must use despatch. Apples everywhere—Apples in fields, Apples under glass, some in pots, others planted out, but all in excellent health, clean and fruitful. Old varieties possessing good qualities are grown, and all new varieties as they come out are added and thoroughly tested. In a corner we noticed Royal Snow bearing a quantity of brilliant scarlet fruits; Bramley's, free and prolific. Hambling's Seedling was also much in evidence, a first-rate kitchen Apple; James Grieve, a handsome Scottish dessert fruit, well worthy of extended cultivation; Lady Sudeley, Lane's Prince Albert, and scores of other well known sorts were all represented by healthy and fruitful trees, promising well for the year of grace 1900.

A run back to our rendezvous, where Mrs. Robertson had in readiness a refreshing cup, with which a most pleasant and instructive afternoon was brought to a close. So we returned home again to the "daily round and common task," filled with gratitude to the genial Doctor and his kind lady for the courtesy and generous hospitality which they extended to a stranger, in consequence of which the visit to Errol will long be cherished in memory by—ALBYN.

FARMYARD AND STABLE MANURE.

THERE can be no subject in connection with gardening, or, indeed, horticulture generally, more important than that of the fertility of the soil. And in order that this fertility be maintained, it becomes a matter of absolute necessity that due consideration be given to the application of suitable manures.

Of all the manures now employed, none can be relied upon with more certainty than the old-fashioned farmyard or stable manure. It is safe, and it is efficacious. Not that I disparage artificial manures for one moment, but they must, as a rule, be used in conjunction with farmyard manure, and not as a substitution altogether.

Mr. F. T. Shutt, in a recent article upon this subject, aptly says:—Since the object of applying farmyard manure—or, in fact, any manure—is to increase a soil's fertility, it is important to have a clear understanding as to what constitutes this quality or condition. A soil's fertility, or crop-producing power, is dependent upon various factors, chief among which undoubtedly is the presence of an abundance of assimilable—that is, more or less immediately soluble—plant food.

There are, however, other factors or conditions that tend towards soil-productiveness, and since farmyard or stable manure, besides supplying the elements for the nourishment of crops, affects directly or indirectly these conditions, it will be well to consider them, if only briefly.

Light and Air.—In the absence of light and air plants cannot thrive, for while the latter supplies the greater portion of their nourishment, the former serves to convert such within the plant into vegetable substances. Since, however, light and air are abundantly provided by Nature, we need only say how important it is to remember that roots as well as leaves require air. Water-logged, badly drained soils exclude the air, and consequently have a low degree of fertility. Farmyard and stable manure do signal service for such soils, and those that have a plastic nature, by rendering them more porous and permeable to air.

Respecting the value of light, it will only be necessary to state that the full effect of manure is not obtained when crops are too thickly sown, or are allowed to stand too closely together on the ground.

Warmth and Moisture.—With these also the control of the gardener is only indirect, although for indoor culture these conditions are more under his hand. It is, nevertheless, well to remember that judicious culture may vastly increase and also regulate a soil's warmth. Between 80 per cent. and 90 per cent. of growing plants is water. All of this, and much more, which is transpired through the leaves during the life of the plant is drawn from the soil.

From the researches of Lawes and Gilbert it appears that for one part of dry matter elaborated by an herbaceous plant, from 250 to 300 parts of water are evaporated through its tissues. It has also been shown that the proportion of water evaporated increases very rapidly if the plant is growing in a soil poor in plant food. The presence of organic matter, as furnished by farmyard or stable manure, is greatly instrumental in controlling a right degree of soil moisture, and more especially in seasons of drought. By its decomposition an increased temperature will be engendered in the surface soil, whilst the carbonic acid evolved in the fermentation will, with the aid of moisture, serve to render the mineral resources of the soil more soluble.

Texture of a Soil.—It is evident that the structure or texture of a soil ought to be studied, as well as its supply of plant food; in other words, the physical and chemical condition of a soil must both receive attention, for both are intimately connected with the fertility. On this point we may state that, independently of the liberal supply of all necessary constituents of plant food by farmyard and stable manure, their beneficial effects are in a considerable degree due to their influence on the mechanical condition of the soil, rendering it more porous and more easily permeable to the surface roots, upon the development of which the success of so many garden crops depend.

—J. J. WILLIS, *Harpenden*.

(To be continued.)

HINTS FROM OUR GARDEN OFFICE.

INDISPENSABLE as are the tool house, potting shed, and, in some seasons, the fruit room, they do not cover all the requirements of a gardener and the garden, although his and its status be only one of middle grade. There is a margin left for that muddling up of things to breed little worries; very little ones, perhaps, like the "skeeters," but equally irritating to the feelings of those who love heaven's first law. The garden office covers this margin. Our first garden office, with its neat fittings and polished furniture, was almost palatial compared to the last, left behind in a gardener's migrations, which occupied the dark end of a damp potting shed, and was certainly shady in two senses. It is with the present we are most pleased, and wanting better illustration would fain depict, for no snapshotter has ever done it justice—probably never will—though, in fairness to the man of negatives, it must be added that he has never tried. It answers all purposes, which are many and varied, and suggests a few hints, sufficient, perhaps, to warrant its intrusion here.

Step in, please; one step up leads to the inference that our office lays high and dry, which it does, and afternoon sunbeams glint through the window of each small apartment (there are two), a decided advantage over the cold north position, with its dim religious light, so many occupy. However, these things are rarely a matter of choice; this happens to be a legacy of the good (?) old days when it was the bothy. Ten feet square, each room, one wonders how the laddies lived in such a tiny home, with an American stove staved in one corner and a washing sink recessed in another, which, with its water supply, is a comfort in our office; nay, almost a luxury compared with dipping the fingers, which have to be in so many pies, into the first waterpot handy and finishing them in the tails of one's coat.

No need to say that the first room is our humble workshop, for the bench and vice attached, as well as the paint-pots all of a row, with tool-box, store of glass, cask of putty, as primary features, proclaim the fact. These form the combined kit of carpenter, painter, and glazier, with just a suspicion of locksmith thrown in; each of the humblest description, it is admitted, but great helps where tradesmen are not kept in the establishment, and contractors are kept out as long as possible. Here tools are handled, light boxes knocked up, or old packing cases cut down to suit the requirements of bulbs for forcing, cuttings of bedding plants, seeds and what not; or a lock is cleaned and oiled, a lawn mower adjusted, shears sharpened, as time affords or needs demand.

The wooden device on lanky legs is for holding a hand-saw whilst being sharpened, and the harsh music of the file is often heard setting its teeth on edge, for there is much coarse pruning and little time or temper to spare over dull tools. We mix our own paint with best materials for garden use, and use it too; and one thinks that if the time spent over the internal winter washing and scrubbing of our houses was devoted to an annual refresher of good white-lead paint all the effects of cleanliness would be obtained with smartness and preservation to boot. Moreover, it is a capital remedy for the bug-bears of drip, thrips, and red spider, not to mention the worst bug of all, the mealy rascal. A garden labourer, as a painter, certainly, has not the touch of a master-hand, but he invariably shows more respect for Vines, Peaches, or irremovable plants. There is, doubtless, a little difficulty in coaching raw hands to do the work in a fairly workmanlike manner; they are so eager to show that they know all about it, but, after upsetting the paint-pot as a preliminary, with a little wholesome admonition and explanation they go ahead to the satisfaction of all concerned.

One of the irritating "skeeters" of the garden is broken glass, and no consolation is to be found in saying it should not be broken. In our little store of glass, previously mentioned, with a diamond to cut it, a solatium is always ready. Truly, every hand is not deft enough to handle the diamond, nor do we let them try; our own has, fortunately, acquired some proficiency, after many years' practice; in that is the reward for our pains, and sufficiency for the panes that are wanted.

The inner room is our sanctum, with a commodious desk filling the window space and stool of the penitential type; suggestively, more for use than ornament. A peep into the desk reveals a representative collection of catalogues useful for reference in garden work. On it is

an improvised inkpot, our diary of doings, and that number of "our Journal"—the fruity-number—which, by-the-by, is super-attractive in its clear-cut views of the grand tables set up at the Crystal Palace. One small cupboard press is utilised for seeds; another, larger, for such stores as are only doled out as required; the system helps to enforce the wise motto, "Waste not, want not." Self-complacency, however, might come to grief if "The Missus," who pens so placidly and soothingly in "our Journal" her deductions drawn from the bosom of Nature, were to peep in. She would, undoubtedly, be shocked at the liberty allowed to a very large spider who has woven her web in a corner, and now darts hither and thither in anxious attention on a big bluebottle fly singing its death song and shaking the frail fabric to its anchorage.

Ranged on a shelf is a whole battery of insecticides, prominent among them being half a dozen clear glass bottles of what might be taken for fine old sherry. To prevent any such catastrophe it is legibly labelled lime-sulphur solution; home-brewed, of course, according to Mr. Molyneux's formula. A simpler, safer, cheaper, or more effective antidote to mildew could not be found. This season we have tried it for rust on the Mums, but shall give it further trial ere feeling qualified to express a definite opinion on its merits in this direction. Our first brewing, some years since, stored in a gallon tin can, quickly ate out the bottom and taught the necessity of bottling, an "always ready, keep it handy" fashion. Nothing has given greater satisfaction for the short time it has been in use than a sprayer which seems to have an Italian name though it is a French invention, and, as an economical and effective distributor of insecticides, would be hard to beat. The difficulty of applying an insecticide to Vine leaves infected with red spider is entirely overcome by this portable and neat little apparatus, which can scarcely be overpraised in saying it is a boon and blessing to gardeners of all degree.

A keyboard affixed to the wall, although not relevant to music, is helpful in keeping things in tune. It is a painted and varnished board with brass hooks screwed into it, a small label pasted above each hook describes the key which hangs below. These are keys which, being only occasionally required, are by other methods, or rather, want of them, too often *non est*. All duplicate keys are also boarded here. There are, too, amongst this *omnium gatherum*, a pile of trays for storing Tulips and similar bulbs when lifted from the flower garden until required for replanting. All these, and more also—things, in fact, too numerous to mention—comprise the visible effects of this most useful little sanctuary, the garden office.—A. N. OLDHEAD.

ROOT-PRUNING.

THIS, though a useful and necessary operation in some instances, is often overdone, and the need for it is very frequently brought about by faulty culture in the earliest stages of young trees. Apple and Pear trees are planted on soil too rich for them, and the gross habit set up can only be checked by pruning the roots. The evil is made worse by hard pruning of the branches, an evil in established trees, but a far worse one in young and newly planted ones.

Stone fruits as a whole, and Peaches and Plums in particular, are planted in borders much too loose for their requirements. Growth is naturally very rapid and very soft, consequently the fruit fails to set, and the superabundant sap finds an outlet in even stronger growths the next season. In order to right this state of affairs root-pruning is practised, and the health of the tree is sometimes endangered. Had the trees first of all been planted in a very firm and not a rich soil, cut back to mature wood only, and allowed their head, the probability is that the growths would be more even, and if an extra strong shoot was produced its vigour can be checked in various ways, such as pinching early, depressing or allowing it to break laterally, and laying the lateral in.

In wood of this class fruit will usually be produced, and if a fairly heavy crop is allowed to swell the first season there will not often be any need to interfere with the roots. But the fact remains that there are cases when the latter must be checked, and now is the time to set about it, before the leaves are all down. The wounds made will heal more quickly and successfully, and there will in most cases be little danger of losing a crop. The methods of root-pruning have often been described, but I may say that important points to keep in mind are to avoid injury to small fibrous roots as much as possible, to begin far enough away from the bole of the tree and work gradually inwards, to do the work expeditiously so as to avoid drying of the roots by cold winds, and to use good cutlery.

I have found excellent results accrue from mixing a good proportion of lime rubble and burnt refuse in the soil before returning it, but manure as generally understood is poison to the newly severed or disturbed roots. In case of bright sun following the operation on large trees with a good deal of foliage, shade lightly for a day or two. The check given by flagging foliage is not the kind of check required, as it impedes proper development of the buds, which is, of course, injurious.—PRACTICE.

EDUCATION IN RURAL DISTRICTS.

MANY dwellers in rural districts have long been convinced that at least some of the subjects taught in elementary schools are not calculated to be in the highest degree useful to the recipients in after life. They are taught nothing of the principles and practice connected with the soil and its cultivation, and are not encouraged to take any interest in the industrial pursuits of the country. That the omission of such teaching has been a mistake has become more and more recognised of late years, but until recently no organised effort has been made to effect an improvement. The existing state of things is, however, not to be continued without protest and the formulation of different methods of procedure, for the matter is taken in hand by a large and influential committee, known as the "Agricultural Education Committee," with the Right Hon. Sir W. Hart Dyke, Bart., M.P., as Chairman, and Henry Hobhouse, Esq., M.P., as Honorary Secretary, the movement being entirely non-political. The first public meeting was held in the hall of the Society of Arts on Friday last, when some 150 gentlemen assembled and passed resolutions for enforcing certain views and requirements on the attention of the Government.

The CHAIRMAN, in his address, said there were present a number of gentlemen who were not faddists, but who for years had been carrying on educational efforts successfully, and who wished to secure a thorough system of technical and practical instruction, not only in the industrial centres, but in the rural districts. An amendment in the elementary system in village schools was urgently desired. Looking back over the past, while marked progress had been made in education in commercial centres, it was astonishing how little had been done in village schools in teaching on those subjects with which the children would be mainly connected in after life. The Education Department should form a new curriculum dealing with agriculture and allied subjects which would enable the children to gain knowledge on, and thus be enabled to get a better living from the cultivation of the soil. A grant should be made for this purpose, and practical teachers appointed to carry out the object in view. When he was at the Education Department, he found much teaching that was of a farcical and impractical character. A reform was much needed on the lines indicated in the Resolutions, and he would do all he could to assist in bringing it about.

Sir HENRY E. ROSCOE, F.R.S., in moving the first resolution, "*That in the proposed organisation of the new Board of Education due regard shall be had to the interests of agricultural instruction*," remarked how little had been done for rural education in the past, both in the higher and lower grade teaching, on subjects bearing on agriculture. There had been no inspectors specially trained or interested in matters pertaining to the land, and a reorganisation of the Education Board was needed for making good the defects of the teaching, as expressed by the resolution.

Colonel LOCKWOOD in seconding fully agreed in the necessity for a change in methods of instruction in rural schools, but feared some time would elapse before suitable men could be found as instructors on subjects that were necessary to be taught in village communities; they should, however, make a start at once and remove useless subjects from the curriculum. The resolution was passed unanimously.

Sir JOHN DORRINGTON, Bart., M.P., expressed the opinion that rural schools were not popular because the parents and inhabitants did not appreciate the teaching given. If this was made acceptable to the parents the case would be altered. It was necessary to have agricultural teaching in training colleges. He moved—"That proper provision should at once be made at certain of the Teachers' Training Colleges for giving [to those who desire it] both theoretical and practical instruction on subjects bearing on agriculture and horticulture."

Dr. SOMERVILLE (Agricultural Department, Cambridge University), in seconding the resolution, said that while Government regulations governing the training of teachers should be modified, yet if labourers were to remain on the land they must have higher remuneration either in wages or otherwise, and advised that gardening and bee-keeping should be taught and encouraged to a greater extent in our villages.

Dr. BODINGTON (Yorkshire College, Leeds) said he was not entirely in sympathy with the resolution or much that had been said. He did not believe the curriculum in village schools was all that could be desired, but reform was not to be brought about by introducing any of the formal sciences and still less the book idea of agriculture. Children should be directed to the observation of Nature and ought to be trained by an increase in practical object lessons by teachers who were themselves practical, but with scientific notions in their minds. Dr. Bodington's observations were loudly cheered. Other gentlemen continued the discussion.

Mr. MARTIN J. SUTTON said he did not agree that the science of agriculture should be taught in rural elementary schools any more than building should be taught in town schools. If they closed the country schools from the middle of June till the middle of September he was sure no child would wish to leave the country for the town.

By the addition of the words "to those (teachers) who desire it," the resolution was passed by a majority.

The Right Hon. Sir JOHN LUBBOCK, Bart., M.P., remarked in reply to Dr. Bodington, that in teaching science it was impossible to get on except by object lessons. They could not make rural children chemists

and naturalists, but they could teach them elementary scientific facts which would be useful. The provision of teachers ought not to be a very great difficulty, as those who desired could soon acquire sufficient knowledge for the purpose. He thought some subjects should be given up in rural schools and more attention devoted to those which formed the basis of agriculture, so that boys would be enabled to benefit by the technical education obtained on the land. Sir John moved:—"That after a certain date to be named in next year's Code, instruction in the elementary schools in the elementary branches of natural science bearing on agriculture should be made compulsory in rural elementary schools, and that such instruction should be accompanied and illustrated by experiments, and where possible by practical work on plots of ground attached to the schools." Seconded by Mr. A. F. Jeffreys M.P., and carried *nem con*.

The Right Hon. Sir JOHN HIBBERT, K.C.B., moved, and Mr. T. F. PLOWMAN (Secretary of the Bath and West of England Society) seconded, in the absence of Mr. E. J. HALSEY (Chairman of the Surrey County Council) the last resolution—"That county authorities be encouraged to provide experimental and school farms, and to contribute, by scholarships and otherwise, to some Agricultural College or Department of the first rank." This was carried.

The character of the several speeches which were made indicated with undoubted earnestness that something should be done to institute a more practical and useful system of education in village schools than has hitherto obtained. Danger perhaps lurks in a tendency on the part of some accomplished men to make it ultra scientific. While it is imperative that all teaching should rest on a scientific basis, there is not wanting evidence that both youths and young men who are saturated with science are the reverse of the best and most profitable land workers. Perhaps some of our readers may have something to say on the important subject of agri-horticultural education in rural districts.

BIRMINGHAM GARDENERS' ASSOCIATION.

AT a well-attended meeting of the members on the evening of the 16th inst., Mr. W. B. Child, Acocks Green, Birmingham, opened a discussion on the herbaceous Aster or Michaelmas Daisy, and in which Messrs. W. B. Latham (the Chairman) W. Spinks and James Deans took part. Mr. Child gave an interesting and instructive description of the numerous varieties extant, and of their cultivation, recommending a position sheltered from the direct north-east winds, and planting them in variety in large clumps, so as to afford as much diversity of colouration and prolongation of bloom as possible, supplying plenty of manure, and a more frequent transplanting than is usually given them in gardens. He also advocated the introduction of the best varieties among the Rhododendrons, as well as in beds or in front of shrubbery borders.

An animated discussion arose between Messrs. Child and Spinks respecting the identity of the former's so-called Aster *ericoides*, and of which he had procured plants from several reliable sources, it having a strictly fastigate habit similar to one of the *Ericas*, and a profusion of pure white flowers, Mr. Spinks believing it to be *grandiflorus*, and asserting that the true *ericoides* has a semipendulous habit, and with not such a profusion of expanded blossoms. Eventually the matter was left over for further arbitration.

Mr. Child's offer of a first prize for twelve bunches of Michaelmas Daisies in not less than six varieties was awarded to Mr. Steele, of Ladywood, an amateur grower and the only exhibitor. Mr. J. Deans (representing Messrs. John Pope & Sons) brought a large and highly interesting collection of cut examples of autumn tinted leaves, comprising upwards of thirty species and varieties of hardy trees, shrubs and other plants, also examples of the American Baldwin Apple rather small, but highly coloured, gathered from an imported young tree, and upon all of which exhibits he afforded interesting remarks.

Mr. W. Gardiner also contributed a few examples, and among which was a highly coloured leaved branchlet of the Tulip Tree (*Liriodendron tulipifera*) with its peculiar, truncated and four-lobed foliage. Mr. W. Hiron, gardener to George Jackson, Esq., The Grange, Moseley, brought a dozen distinct and beautiful varieties of Michaelmas Daisies, not for competition, and Mr. Geo. Stacey a small collection of Apples.

ASPARAGUS DEFLEXUS.—The pretty decumbent habit of this species renders it very useful for hanging baskets in the fernery. Large plants with long shoots are especially handsome in the spring, when there are usually some shoots growing erect, and others pendant. Even small seedlings show this habit almost at once, and this is a very good way of increasing the stock. The seeds may be placed singly—i.e., the berries—in small pots, and the several young plants may grow away together, making a well-furnished plant directly. The culture is simplicity itself, nothing being necessary beyond ordinary warm greenhouse treatment, and repotting as often as necessary. When basketing place a little rough moss about the wires, which the roots soon get hold of and keep in place. For permanent baskets of large size it is best to put a few pieces of charcoal or crocks in the soil, this keeping it open and sweet. *A. deflexus* should not be given too rich a compost, but when well established feeding with chemical or liquid manure may be practised, always noting that the roots should be moist at the time. A moist atmosphere at all times is essential.—B.



RECENT WEATHER IN LONDON.—Both Saturday and Sunday in the Metropolis were very foggy indeed, and locomotion was difficult. Monday and Tuesday were not quite so bad, but the conditions were still unpleasant. Wednesday was very mild and dull.

DEATH OF MR. SYDNEY COURTAULD.—It is with deep regret that we have to record the death, on the 20th inst., of Mr. Sydney Courtauld, Bocking Place, Braintree, Essex. The deceased gentleman was intensely interested in horticulture, particularly perhaps in Orchids, and was a member of the Council of the Royal Horticultural Society, as well as of the Orchid Committee. Mr. Courtauld was in his sixtieth year, and will be much missed at the Drill Hall and other gatherings of horticulturists.

DUNN MEMORIAL FUND.—A meeting of the Committee in charge of this Fund was held on the 18th, and it was decided to close the list on December 1st. This intimation will give those who have not subscribed the opportunity of doing so. Any of the Secretaries, whose names are appended, will be glad to receive subscriptions:—Mr. P. Murray Thomson, 5, York Place, Edinburgh; Mr. James A. Terras, 21, Teviot Place, Edinburgh; Mr. Robert Galloway, 5, St. Andrew Square, Edinburgh; Mr. Robert Laird, 17, Frederick Street, Edinburgh.

ROSE KILLARNEY.—A great favourite of mine from its earliest times, this choice Rose has—this season—more than ever impressed me with its good behaviour, and for profuse blooming has given greater results than any other Rose in the garden. Anyone seeing it for the first time have wanted to make a closer acquaintance, and no wonder, as some disbudded shoots have carried as many as a dozen of the most perfectly formed flowers, with sufficient length of stem to make the finest button-hole flowers without wiring. Then, too, there are those long pointed buds of the most charming deep pink flesh tint colour, sweetly scented, that rivets one's attention. On all the above points it is really excellent, whilst from disbudded shoots the flowers attain fine exhibition size.—R. P.

EARLY POTATOES.—I am pleased to note that there will be a trial of distinctly early Potatoes at Chiswick next year, and that it will include old as well as new varieties. I trust these early ones will not be planted too early, for serious harm has often been done to the tops of early ones by late frosts at Chiswick, entirely vitiating the results of the trial. I should regard the last week in April as sufficiently early, and the testing for crop and earliness should take place not more than three months from the time of planting. No one who grows early varieties waits until they are ripe before lifting and using them. We want in the tubers not great size but evenness, abundance, and especially table excellence when cooked. No variety could be regarded as early that was not thoroughly fit for such test at the end of July. Possibly some may think that is too late, and that a fortnight earlier would be preferable. But early planting without protection does not always produce the best results.—A. D.

THE METROPOLITAN PUBLIC GARDENS ASSOCIATION.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, on Thursday, Mr. Hugh Leonard presiding, it was stated that the amendment proposed by the Association to the Commons and Open Spaces Bill of last Session had been accepted, and that the Bill having since passed into law, all County Councils were by means of this amendment able themselves to acquire and maintain land for public recreation or to assist municipal and district councils and other local authorities to do so. It was also mentioned that the clause promoted by the Association for the protection of open spaces had been inserted in the Local Government Act. A number of letters were read asking for the assistance of the Association in the preservation of Albert Square, Commercial Road, E., which was offered for sale as a building site, and it was decided to approach the various local authorities concerned and the London County Council, urging them to jointly acquire the site if obtainable on reasonable terms. A letter was read from the Bethnal Green Vestry offering to maintain Marian Square, Hackney Road, if the Association would undertake to lay out and fence in the ground. It was agreed to take further steps in the matter. Many proposals were under consideration, including schemes for the acquisition and laying out of sites in Fulham, Earlsfield, Westminster, Essex Road, Shadwell, and Enfield.

GARDENING APPOINTMENT.—Mr. Jas. Richardson has succeeded Mr. Foster as head gardener to E. Murray Ind, Esq., Coombe Lodge, Great Warley, Essex.

CONCERT IN AID OF THE ROYAL GARDENERS' ORPHAN FUND.—On November 2nd the Constitutional Hall of Chertsey will be the venue of a concert to be held in aid of the above charity, and we wish it unqualified success. A most excellent programme has been arranged, and all necessary particulars may be had from the Honorary Secretary, Mr. A. J. Brown, Jessamine Cottage, Eastworth, Chertsey.

ROSE MRS. JOHN LAING.—A bold correspondent "F." writes: "I cannot understand why Mrs. John Laing stands easily first in the Rose analysis. Certainly the shape is good but by no means pretty, the colour distinctly bad, unless grown on strong clay, and even then not up to much; the foliage is coarse, and the Rose itself has no delicacy of texture. Ulrich Brunner is not a great favourite, but he would certainly rank before Mrs. John Laing. The 'Charming' Crawford will increase in popularity, as will Caroline Testout."

ARISTOLOCHIA ELEGANS.—This is one of the prettiest in the genus, with the usual twining habit, and smallish but very beautifully coloured flowers. The latter are produced from the leaf bases and long pendants, the effect of a well flowered plant being very fine. It may be grown from cuttings or seeds in a brisk moist heat from the first. The flowers are freely produced in the second year, and every season a little of the older wood should be cut out to make room for new, as it is in the latter the best flowers occur. A rich, but firm and well drained compost is best for it, and the plants may be grown round trellises or on the roof, either in pots or planted in borders.—C. H.

A SCOUNDREL.—For some years we have had two collecting boxes in aid of the Royal Gardeners' Orphan Fund fixed up in our establishment. We have been in the habit of opening these once a year and sending their contents up to the Treasurer of the Fund. On Wednesday night or Thursday morning last, some prowling dastard forcibly removed the box in the most prominent position in our place, and which always contained the most money. I am doing all I can to find out the thief, but with not much hope of success. I feel extremely sorry that such a deserving institution should suffer at the hands of some low scoundrel.—WM. THOMSON.

MARRIAGE OF MR. M. H. FOQUET SUTTON.—The marriage of Mr. Martin Hubert Foquet Sutton, eldest son of Mr. and Mrs. Martin J. Sutton of Henley Park, Oxfordshire, and Eleanora, daughter of Colonel Morton (late Border Regiment) and Mrs. Morton of Mildmay, was solemnised recently at St. Mary Abbots, Kensington. The officiating clergy were the Right Rev. the Bishop of Sierra Leone, the Rev. Claude Hope Sutton, Vicar of Southwold, uncle of the bridegroom, and the Rev. D. B. Hankin, Vicar of St. Jude's, Mildmay Park. The bride was given away by her father, and Mr. Harry Buxton of Hunsdon Bury was the best man. The bride and bridegroom left for Paris, en route for Italy.

HESSLE GARDENERS' SOCIETY.—A meeting of the above Society was held on October 17th; Mr. Mason occupied the chair. Mr. Dobbs, of Elloughton, read a practical paper on "The Cultivation and Raising of Narcissus and Snowdrops for Profit." The essayist strongly recommended market gardeners and allotment holders to cultivate these popular bulbs, and clearly pointed out the great remuneration for their labour. If, said the essayist, sound bulbs were more universally produced in this country, there would never be such a demand for foreign produce. A cordial vote of thanks to the essayist and the Chairman terminated a thoroughly enjoyable and highly instructive evening.—J. F. D., Yorks.

SHIRLEY GARDENERS' ASSOCIATION.—The monthly meeting of the above Society was held at the Parish Room, Shirley, Southampton, on Monday, 16th inst., there being a good attendance of the members, presided over by Mr. B. Ladhams, F.R.H.S. Mr. F. W. E. Shrivell gave in the form of a lecture on "Chemical Manures for the Kitchen and Market Garden" the results of a long series of experiments carried out at Tonbridge with chemical manures. The trial grounds are divided into sections, and the sections into six plots each, and on these plots the different vegetables are grown, some with farmyard manure heavily dressed, others with a mixture of manure and chemicals in different proportions, and in each case one plot is manured with chemicals only. Diagrams showed weight of produce taken off in each case, and the value received for the same. A brief discussion ensued, and a vote of thanks was accorded Mr. Shrivell at the close of his lecture. There was a good show of fruit by the members, also some good Celery grown with the aid of sulphate of ammonia.

— **HEAVY VEGETABLE MARROWS.**—In your issue of October 12th last a Marrow 41 lbs. is referred to. A little chap has recently been cut at Solihull, Warwickshire, which can beat this by $4\frac{1}{2}$ lbs. Its girth is 3 feet 4 inches, and it turns the scale at 45 $\frac{1}{2}$ lbs. The variety is Long Cream, and the grower is Mr. J. Eales, gardener at The Grove, Solihull. This is the largest yet recorded round "they parts." What can other districts show?—G. A. W.

— **"AMATEUR WORLD OF HORTICULTURE."**—This is the official organ of the National Amateur Gardeners' Association, and its quarterly parts always contain a good fund of useful information. In the April to June issue, now before us, we find, in addition to the reports of routine business, excellent papers on Town Gardening, by Mr. B. Tourle; About Exhibiting Roses, by Mr. G. W. Cook; and The Artistic Arrangement of Cut Flowers, by Mr. D. B. Crane.

— **MR. G. W. CUMMINS.**—We are sorry to hear that, owing to the effects of the northern climate on the health of a member of his family, Mr. Cummins feels compelled, acting on medical advice, to return to the south again. His employer, W. H. Lumsden, Esq., of Balmedie, Aberdeen, is desirous of assisting his able and experienced gardener into another situation in a milder district. As is well known, Mr. Cummins is an expert grower of Orchids, hardy flowers and fruit.

— **ASTER DIFFUSUS HORIZONTALIS.**—In the midst of many varieties at present in full flower in the garden, this exquisite small-flowered variety convinces everyone by its sweet simplicity and freedom of flower. Quite amongst the smallest of the "Michaelmas Daisies," as regards the individual flowers, the branching habit, and stems not more than 2 $\frac{1}{2}$ feet high, it is worthy of its position, and if placed in a good situation and liberally treated will give an excellent return, lasting long when cut. From the many shades of blue, lilac, and lavender, the pretty pink and white flowers of this little gem come as a great relief, and in striking contrast to many other flowers.—R.

— **AMPELOPSIS VEITCHI AND HAGGI.**—One of the most interesting and unique creeper-clad garden walls that it has ever been my good fortune to behold is a boundary brick wall bordering the cartway leading down to the fruit and vegetable garden belonging to Mr. Fred. A. Mole, Westfield Road, Edgbaston (one of the most practical and successful amateur Apple and Pear suburban cultivators in the United Kingdom, and in evidence of which may be mentioned the publication in the *Journal of Horticulture*, April 28th, 1892, of his instructive lecture, read before the members of the Birmingham Gardeners' Association). Clothed with alternately arranged plants of the above climbers, the wall is 240 feet long, and about 8 feet high, each plant covering a space of about 120 square feet. Thus it may readily be imagined what a splendid picture of coloured foliage is presented thereby, and never more so than during the present season's sunny weather; the harmonious colouration of the rich, crimson-purple, bronzy, tricuspidate leaves of Veitchi, with the amber mottled, lanceolate, ternate, large leaves of Haggi forming a picture that must be seen to be fully appreciated, as it is by the numerous passers-by. It should be remarked that the face of the wall in question has a southern aspect.—W. GARDINER.

— **NATIVE GUANO.**—Although this manure is manufactured in Kingston from the sewage of this place and adjoining towns, I had not given it any trial as a Potato manure previous to the present year, ordinary chemical or artificial manures having generally been employed, and these with very little success. But this year, having arranged to plant numerous varieties of Potatoes, as a trial, on a pure sandy soil at Egham, I asked the Native Guano Company for a bag of their manure to try its effects on the breadth, and that was readily granted. The planting took place early in April, the ground having been previously deeply dug but not manured. The furrows, thrown out 5 inches deep and fairly wide, enabled the manure, at the rate of about 2 lbs. per row, or from 10 lbs. to 12 lbs. per rod, to be strewn in with the sets. Of some eighteen varieties planted, two rows of each, only the first planted row in every case was thus dressed with the manure, but the sets in each row were of equal size and number. In the early stages of growth the tops of the dressed rows showed greater robustness than did those of the undressed rows. The crop was carefully lifted last week, and in every case, although the season has been so hot and dry, the results showed clearly that the manure-dressed rows gave the best crops. So good were they generally, especially with robust growers like Prime Minister, Up-to-Date, Chancellor, Syon House Prolific, Sutton's Reliance, Webb's Motor, and Industry, and a few others, that allotment holders having near plots quite marvelled, as being far better than their crops had been. Of four plots in different localities the Egham plot gave this season by far the heaviest Potato crops.—A. DEAN.

— **RUBUS LEUCODERMIS.**—A very fine specimen of this, the whitewashed Bramble, can be observed in the spacious gardens which are attached to Clontarf Castle, the property of Colonel Vernon. The plant in question measures about 8 feet in height and 10 feet across. The position mars its effect, being in a corner, and in too close a juxtaposition with a Pear tree; the tree is one of the finest in Dublin.

— **FLOWERS IN SOUTH AFRICA.**—A war correspondent in traversing the Karoo in South Africa says, "Startling were the patches of brilliant wild flowers, bursting suddenly into view at some points. The sandy soil and rocky hills were still beneath, but clothed with a gorgeous wealth of purple Heather, dwarf shrubs, the flowers of which were like the gold of Gorse in full bloom, and bushes bearing trumpet-shaped flowers of flaming scarlet. All this colour stretched away in endless gradations as far as one's vision reached. It seemed as if the desert sand, touched by a magician's wand, had suddenly 'blossomed in purple and gold.'"

— **TEA CULTURE IN AMERICA.**—Attention is again being given to the propriety of extending Tea culture in America. The plants thrive as well along the lines of the Allegheny Mountains as they do in their native country. About this there is no need for any further experiments by the Government Stations. What is needed, however, says a transatlantic journal, is to find out how to gather the leaves and prepare them as cheaply as they do in China. It is said we can have Chinamen here to do the same work for us that they do in their own native land, but it is found that when a Chinaman emigrates to this country he soon finds out that his labour his "alle samme Melican man."

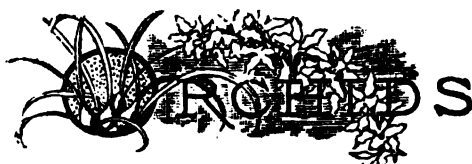
— **COUNTY POTATO COMPETITIONS.**—The description given at page 243 of the competition with allotment holders and cottagers for the Kent County Challenge Shield is very interesting, and makes one wish that some similar forms of competition were instituted in every county in the kingdom that includes horticulture in its technical education. But I should appreciate very much more a county competition for collections of vegetables generally, as well as for Potatoes specially, either for some challenge vase or shield, with money prizes added. Were such competitions instituted there can be no doubt but that they would evoke strong competition and keen interest. But in relation to Potatoes, there is one form of Potato competition which would be, of all methods of testing cultural ability, the best. That is, to offer prizes for the best and heaviest tuber produce from twenty sets of plants grown in a row or rows specially for the purpose, the competitor to be allowed to grow which variety he chose, and use whatever sized sets he may prefer. But he should be bound to plant not wider than 15 inches apart in the rows, and his rows not to exceed 36 inches apart. That would, so far as area of ground is concerned, place every competitor on the same footing. The rest would be partially a question of variety, but chiefly one of cultivation. The twenty roots thus in competition should be lifted in the presence of a competent judge, at a specified date, say the end of August, or later if preferred, and the produce be accurately weighed; not mere bulk alone to be the test of excellence, but average quality of each, and fitness for table use or market sale. Such a trial would be very different from a competition which admits of the best dish or dishes picked from a large breadth of Potatoes.—OBSERVER.

METHEOLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1899.										
October.										
Sunday ..15	E. S E.	deg. 40.9	deg. 44.7	deg. 52.2	deg. 39.3	ins.	deg. 47.3	deg. 51.8	deg. 54.9	deg. 38.1
Monday..16	E. N. E.	47.9	44.0	56.1	42.9	—	47.3	51.3	54.6	33.7
Tuesday 17	E. N. E.	44.8	44.2	59.1	42.0	—	47.3	51.3	54.4	32.0
Wed'sday 18	E. N. E.	40.0	40.0	61.7	34.0	—	47.1	51.2	54.3	25.6
Thursday 19	E. N. E.	48.9	43.7	57.7	38.1	—	46.8	50.9	53.9	25.5
Friday ..20	E. N. E.	40.8	40.6	52.6	35.0	—	41.2	50.5	53.8	23.5
Saturday 21	E. N. E.	40.0	40.0	43.2	33.9	—	45.6	49.9	53.5	25.8
MEANS ..		43.9	42.5	54.7	37.6	Total	46.2	51.0	54.2	27.9

A week of dense smoky fog, which has left a thick deposit of smut on outdoor vegetation, and caused the leaves of some softwooded plants under glass to fall. No rain has fallen since the 12th.

**EPIDENDRUM RADIATUM.**

THE blossoms of this Orchid are very distinct, pretty, and sweetly scented; but like one or two other nearly related kinds, it has never been a popular plant. From the top of the pseudo-bulb it produces erect spikes of flowers, each containing from six to eight, these being about $\frac{1}{2}$ inch across individually, the sepals and petals creamy white, the inverted shell-like lip pale cream, with purple radiating lines. The culture is extremely simple, as the plants thrive in any warm, moist house, whether devoted to Orchids or not. The compost may consist of peat and moss, over good drainage, and ample moisture must be allowed during the growing season.

CYPRIPEDIUM PARISHI.

Anyone unacquainted with this species, and seeing it for the first time, would be inclined to doubt its Old World origin, so near does it come in habit and the shape of the flowers to the South American Selenipedium section. The long pendant petals are green, spotted with blackish purple at the base, becoming lighter in colour, and margined with rose at the tips. Its thick green leaves point to a vigorous constitution, and under cultivation it will be found to thrive in a sound substantial compost. Ample heat and moisture, combined with free supplies of water at the roots, is necessary. It was originally discovered by the late Rev. C. Parish in 1859, but not introduced alive until some years later.

PLEIONE LAGENARIA.

This beautiful little Orchid is again flowering freely, and should be grown by everyone. Although the flowers show very little deviation from those of *Coelogyne*, the name *Pleione* seems to come more natural, and though the former may be correct botanically, the latter will long be used in gardens. It should be repotted annually directly after flowering, the pseudo-bulbs pulled apart and replanted in equal parts of peat fibre, loam, and chopped moss. Water with care after repotting, and until re-established, only a slight overdose of moisture being fatal to many of the young roots.

RENANTHERA LOWI.

This species, which is also known as *Vanda Lowi*, is a most remarkable plant in many ways, and one of its peculiarities is that of producing two kinds of flowers upon one spike. A couple of blossoms at the base of each of these are quite different in shape, colour, and general appearance, and anyone unacquainted with them would certainly not consider them as of the same species as those that occur higher up. The lower ones are brownish yellow, with blunt sepals and petals; the upper bright yellow spotted with red, the segments longer and more acute.

Under cultivation the plant requires ample room, as it grows 10 feet or more high, and the flower spikes are often a couple of yards in length. In large houses backed with suitable greenery such as Tree Ferns or Palms it has a very noble effect, the long pendant spikes giving a fine tropical appearance to the house. Naturally large pots or baskets are required; and the compost must have plenty of large rough lumps of charcoal or ballast in it. Many of the roots will push out laterally in the house to feed upon the moisture in the atmosphere, which ought always to be plentiful if the plant is to be satisfactory.

RESTING DENDROBIUMS.

There is no other section of this genus that requires so distinct a resting season as the spring-flowering deciduous kinds, and it is quite time that the majority of these had finished their growth. When the stems are complete and ripe to the points, the leaves, as a rule, begin to drop, and the plants may then be hung up in a cool sunny house where there is a continuous current of air through the winter. I have had the harder kinds, such as *D. nobile*, in a house that actually reached the freezing point on more than one cold night, but such extremes of temperature are dangerous and unwise.

I do not think there is a single exotic Orchid that can be said to be really happy in a lower temperature than 45°, and I am sure that by far the majority, even of cool house kinds, are better with 5° more heat than this when resting. None of the deciduous kinds need any water at the roots after they are well ripened; there is ample nutriment in the stems to provide for the flowers that are forming at the time the plants are apparently quite at rest. Shrivelled stems are the result of unripened growth, and such as suffer this way must have a little moisture.—H. R. R.

NEW FUCHSIAS.

THE revival of popularity which Fuchsias now enjoy as bedding plants lends interest to the work of those few raisers who from time to time put into trade new and distinct varieties. Of these raisers few have during the past thirty years presented for cultivation more or better varieties than has the veteran James Lye, of Market Lavington.

This excellent gardener, after some fifty years' service at Cliffe Hall, with the late Hon. Mrs. Hay, is now residing at Easterton, a village half a mile east of Market Lavington. He still, from time to time, raises new varieties, and also grows those fine specimen plants which, through him and his disciples in culture, have made the West of England shows so famous for noble Fuchsias. Such plants, indeed, as are now never seen in the metropolis, or in other directions.

A very fine stock of tall specimens now at Easterton comprise nearly all varieties that are not yet in commerce. They vary according to habit of variety from 5 feet to 7 feet in the pots, and all so well grown as to be perfectly furnished. They are in pots ranging from 12 inches to 15 inches in diameter, and all will next year, under proper care and attention, make splendid specimens, both taller and broader.

The usual method of culture is to root young tops in March, to grow them in gentle warmth, so that they attain to a height of from 5 to 6 feet the same season, habit being an important factor. The general compost is a good retentive yellow loam of a turfy nature, two-thirds, some well-decayed sweet horse droppings being mixed with the loam a month before use. Some good leaf soil, vegetable ash, and sharp sand complete the mixture. Potting should be firm.

As a rule the plants thrive best when stood out of doors in a partially shaded place during the summer; in winter they are kept in a light airy structure from which frost is just excluded. It has been Mr. Lye's special object to obtain varieties that, whether for exhibition, for greenhouse, or garden decoration, retain the flowers a long time. It is so admirable a feature in most of his raising that Fuchsias now travel long distances in full bloom remarkably well, scarcely dropping a flower. No wonder, then, that this raiser's varieties are universally grown for show, and are far more popular for all purposes than are the many large-flowered French varieties in commerce.

Probably of all Fuchsias in trade none has a wider popularity than Mr. Lye's Charming. Some of the latest stock of seedlings, however, especially light ones, seem for floriferousness to eclipse even that old popular red one. Of these new ones there are two reds only. Master-piece, a noble plant, tube and sepals rich deep red, the latter well reflexed, corolla rosy purple, wonderfully free bloomer, long continuing. The other is Brilliant, a tall pyramid, flowers blood red tube and sepals, corolla violet shaded red, also very free. Then of whites there are White Queen, a perfect column of foliage and bloom, tube long, mauve-white sepals well reflexed, corolla vermilion shaded rose. Lye's Fancy, from the same origin as the preceding, is wonderfully flowered, tube white-veined rose and pencilled sepals, corolla magenta shaded violet. Excellence, very tall, stout, sturdy, short-jointed growths, profuse bloomer, tube and sepals white, corolla blush red edged scarlet. Amy Lye, of similar proportions, tube shortish, sepals long reflexed, white shaded pink, corolla reddish salmon, very beautiful. These comprise the tallest growers. Then of more compact ones Marvellous is truly named, as it seems to be the most wonderful bloomer ever seen. Its height here is about 5 feet to 6 feet, and the branches are dense. Tube and sepals reddish carmine, corolla violet purple. This plant (fig. 69) is from seed sown April, 1897. A further beautiful variety is Coral Bedder, also wonderfully free, carrying from ten to twelve flowers on each shoot. Tube short and stout, sepals well expanded, and in colour coral red, corolla pale pink, veined light red. There are some others, but these were best in bloom when I saw them in September.—A. D.

EXCELLENCE IN MELONS.

THANKS are due to the several correspondents who gave their views on the excellence of Melons, and the points raised in my earlier notes, conjointly with those of the Editor. I had anticipated a doubtful acceptance of the principles of judging by cultural merit alone, and although satisfaction is not always derived from adverse criticism, more of the Melon-growing Journal readers might have advanced their opinions relative to the Melon as an exhibition fruit, the provision made for them at shows, and the mode of judging. "A. D." says, page 248, "no man acting as a judge would be worth his salt who awarded prizes to Melons solely by appearance;" and further that "the most beautiful externally may prove positively uneatable."

Replying to the last quotation first, one is tempted to ask what becomes of the most beautiful and perfectly grown Melons that every day find their way into the dining-room, as well as others that are neither beautiful to look upon nor to eat? My experience, as a grower of several hundreds during each year, is that they are eaten; and very rarely, in my case at any rate, is there anything, or little beside the

skin, juice, and seeds returned from the table. It is rare for a complaint to be made about quality, though, as a matter of necessity, this varies from day to day; but sometimes special commendation is made when one of particular merit is presented. "A. D." places a small value on the man who ventured to judge by cultural merit, apart from flavour; but many cases can be cited where men of high position and attainments have stepped down from the platform so jealously guarded by your correspondent, and have given their verdict without cutting them.

What I the more strongly advocate was a class, or classes, for Melons representing the different sections—white, green, and scarlet fleshed—the same as Apples or Pears are shown. The fruit to be judged according to their merits without being cut. Present day classes could be continued as they stand, but introduce new principles, and judge by comparison between the two. A too serious view seems to be taken of the standard set up by such a course; many jump to the conclusion that only the largest fruits would be favoured apart altogether from material quality, and this standard taken as a downward grade in Melon raising as well as in growing them. Such opinions are, I think, more fanciful than real. There are plenty of fine Melons grown every year that are not seen on the exhibition table, simply because the fruit itself is considered too good for the prizes offered together with the uncertainty of winning.

"E. M." says, "Could a better reason be advanced for condemnation, because on the show day they happen to be either under or over ripe?" He would indeed be a clever man who could cut Melons for several consecutive shows, and judge them to the day for ripeness. It may be done by chance, or by a grower who has sufficient stock to be able to cut some fruits every day; but how many exhibitors of Melons have to adopt measures of retarding or hastening their fruits for particular dates? From the same plant, too, it is possible to cut Melons differing in their qualities; a fruit staged at one show may be dismissed without favour, while at a later show a fruit from the same plant may win a first or second prize in "good company." It is impossible for the average gardener to estimate the flavour test of any Melon, no matter what are the conditions under which it has been produced, on a given day.

"A. D." pits Cox's Orange against Peasgood's Nonesuch Apples as an argument of flavour—a most unfair competition. He should at least have chosen two dessert or two cooking varieties for comparison. But even in these two Apples, which are those that win at exhibitions? Is it not the larger and better coloured in both cases? And if this is a correct principle with one fruit, why not in another—that is, given standard high-class varieties to compete with? Would not a fruit of Earl's Favourite, Blenheim Orange, Sutton's Triumph, Best of All, or any other high-class Melon of, say, 5 lbs., be judged a better—colour, netting, and ripeness admitted—than one of a pound, more or less? and would not such a fruit show better cultivation? All practical Melon growers must necessarily give an affirmative answer. These I hold to be the points raised by "H. P." in his excel-

lent notes on page 278, with many of which he would find adherents among the Journal readers.

"Rather than write to excuse grave deficiencies of flavour found in Melons," writes "A. D.," "would it not be better to seek information as to how to produce in them the best flavour, even though they be smaller?" Herein may be found an excellent text for "A. D." himself to furnish the desired information upon, and I am sure there are a great number who would be grateful for the needful detail that would lead to more uniform results. Melons are, no doubt, erratic plants to deal with, and notwithstanding the great strides that are being made in almost everything, the goal seems yet remote for the much sought for uniformity of flavour in these fruits.

If it is so absurd to propose classes for white, green, and scarlet fleshed Melons for the purpose of exhibition, why should raisers and seed merchants lay so much stress on retaining the different sections at all? Why not dispense with such definitions altogether and offer them as Melons simply, and societies offering prizes for them drop the stipulations out of their schedules? It is not true that not on one occasion in ten can anyone tell what the colour of a Melon's flesh is without cutting. If careful fertilising and selection is carried out a Melon of any standard variety can be relied on to reproduce itself true to colour, and if "A. D.'s" assertion were true, what a mixed medley would be seen at fruit shows after they had been cut. This, however, is not so, when schedules clearly state the terms of competition. Uncertainty of colour in flesh comes from the newer sorts that are not "fixed" before being sent out, and also from the saving of seed from fruits that have not been "set" at the flowering time from carefully chosen pollen-bearing blooms.

In reference to your correspondent's assertion that a judge is not worth his salt who would decide by appearance alone, schedules invariably, or very often, clearly say, "Melons to be cut," or "to be decided by flavour." Such being the case, adjudicators have no alternative, and any departure from the terms of the schedule would have to be legally obtained from the executive who employed them. Any change of constitution in Melon competitions must first come from schedule committees, and "A. D." might assure himself that if he could bring his influence to bear on

a few leading societies, and induce them to add an additional class for Melons representing the three sections, not to be cut, but to be correctly named and distinct, he would find that it would, in course of time, be both popular and interesting. Retain classes for flavour by all means, but have also the suggested alternative.—W. S. Wills.

BOUVARDIA HUMBERTI CORYMBIFLORA GRANDIFLORA.—This handsome free-flowering Bouvardia may be forgiven its uninviting name when we consider its great usefulness as a cut flower. The leaves are well formed, and the flowers of the purest white and thoroughly distinct, altogether an acquisition in any greenhouse. All Bouvardias are useful during the winter months, but none more so than the above mentioned variety.—PRACTICE.



FIG. 69.—FUCHSIA LYE'S MARVELLOUS.



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for recording those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries:—

- Oct. 31, Nov. 1.—TAUNTON.—John S. Winsor, 16, Hammet-st., Taunton.
 Oct. 31, Nov. 1, 2.—WOLVERHAMPTON.—J. H. Wheeler, Glen Bank, Tetterhall, Wolverhampton.
 Nov. 1.—EXMOUTH.—R. Pearce, Chippenham-gardens, Exmouth.
 „ 3.—EVESHAM.—G. Witts, Evesham.
 „ 3, 4.—BATTERSEA.—Hon. Secretary, 167, Elsley-rd., Lavender-hill, Battersea, S.W.
 „ 7, 8.—BRIGHTON.—James Thorpe, 58, Ship-st., Brighton.
 „ 7, 8.—BIRKENHEAD AND WIRRAL.—W. Riley, 28, Whitford-rd., Birkenhead.
 „ 7, 8.—COVENTRY.—John Cooper, 31, Foleshill-rd.
 „ 7, 8.—CROYDON.—W. B. Beckett, 272, Portland-rd., South Norwood.
 „ 7, 8.—WEST OF ENGLAND.—Chas. Wilson, 4, North-hill, Plymouth.
 „ 7, 8, 9.—BIRMINGHAM.—J. Hughes, 140, High-st., Harborne, Birmingham; F. W. Simpson, Victoria-rd., Birmingham.
 „ 7, 8, 9.—NATIONAL CHRYSANTHEMUM SOCIETY.—Richard Dean, Ranelagh-rd., Ealing, W.
 „ 8, 9.—BATH.—B. R. F. Pearson, W. Jeffery, 2, Northumberland-buildings, Bath.
 „ 8, 9.—BOURNEMOUTH.—James Spong, Lindisfarne Gardens, Bournemouth.
 „ 8, 9.—BRISTOL.—Geo. Webley, Westbury-on-Trym, Bristol.
 „ 8, 9.—CARDIFF.—H. Gillett, 66, Woodville-rd., Cardiff.
 „ 8, 9.—KINGSTON-ON-THAMES.—W. D. Elsam, Kingston-on-Thames.
 „ 9.—WINDSOR, ETON, AND DISTRICT.—Mr. Herbert Finch, Bank House, Eton.
 „ 10, 11.—ALTRINCHAM.—C. C. Marns, 22, Railway-st., Altrincham.
 „ 10, 11.—DERBY.—H. J. Bell, Normanton-rd., Derby.
 „ 10, 11.—ECCLES.—H. Huber, Hazeldene, Winton, Patricroft.
 „ 10, 11.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.
 „ 10, 11.—SHEFFIELD.—Wm. Housley, 28, Joshua-rd., Sheffield.
 „ 14, 15.—LEEDS PAXTON.—Wm. Smith, The Gardens, Westwood Hall, Leeds.
 „ 15, 16.—HULL.—Edward Harland, Manor-st., Hull; James Dixon, 2, County-buildings, Hull.
 „ 14, 15.—LIVERPOOL.—Harold Sadler, 7, Victoria-st., Liverpool.
 „ 15, 16.—RUGBY.—Wm. Bryant, 8, Barby-rd., Rugby.
 „ 15, 16, 17.—YORK.—Geo. F. W. Oman, 38, Petergate, York.
 „ 17, 18.—BOLTON.—James Hicks, Markland-hill-lane, Heaton, Bolton.
 „ 17, 18.—BRADFORD.—R. Eichel, Westcliffe-rd., Shipley.

VOTING AT THE N.C.S. COMMITTEE.

THE letter of Mr. W. J. Godfrey (page 338) on the way in which business has been conducted at the first and second meetings of this season is unanswerable, and such modes of procedure do not speak very highly of the interest members have in their work when they so refuse the call of the Chairman's whip. It only requires a few such meetings to bring that useful committee into disrepute. But as regards the new rule, which is plain enough on page 33 of the annual report of the National Chrysanthemum Society, those objecting to it now exhibit a singular lack of knowledge as to the working of their special body by not having it altered at the proper time, if necessary, because I believe the Floral Committee has the power to amend regulations for its own procedure. A small attendance may have been the cause of the three-fourths majority being carried.

As to the rule itself, I think it most advisable. It will prevent anything except first-rate novelties obtaining the award. Really good new Chrysanthemums are less numerous than the certificates of the Floral Committee would lead one to believe. Last season forty-five varieties received such recognition, and to say all that number were improvements on existing sorts is a wee bit too much for me. Probably after one season's trial half of them will be discarded, and a year or two following very likely three-fourths will find rest upon that sanctum sanctorum of the cultivator of florists' flowers—

the rubbish heap. Make the first-class certificate difficult to obtain, then it will be valuable, and the buyer of new varieties will be prevented no end of disappointments.

I would not like to say the variety in question is not first-rate. My knowledge of the Floral Committee, however, convinces me that there is no mistaking a unanimous vote. Let us hope, therefore, that the writer of the letter referred to will alter his decision, and not "boycott" a useful Committee, but will produce such gems this autumn as shall need no fear of that "third of a man."—H. SHOSMITH.

MR. GODFREY has begun rather early in the season to open the sluice gate which for some time has kept back the flood of vituperation apparently annually destined to flow over the reputation of the National Chrysanthemum Society. I cannot understand at all how it is, if members of that body have such reason for complaint of its acts as is occasionally told of, that they do not take the only proper course open to them, and leave a Society with which they perpetually are finding fault. Whoever may be to blame the dispute is invariably unseemly. If Mr. Godfrey will take his flowers to the Drill Hall meetings he will have ample justice done them, and certainly the R.H.S. Floral Committee is quite as capable of dealing with the merits of Chrysanthemums as is, so far as I can see, the N.C.S. Floral Committee. If the former be not so, get the Council to strengthen it, and then to hold weekly meetings of the body through the Chrysanthemum season, either at the Drill Hall or at the Society's office.—A. D.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE Executive Committee of this Society held a meeting on Monday last at Carr's Restaurant, Strand, Mr. P. Waterer presiding. There was a very large attendance of members, and interest in the debates was somewhat keener and longer than usual, a great portion of the evening being occupied by the discussion on the report of the Committee appointed to consider the relations of affiliated Societies.

Before the real business of the evening began the Chairman made a presentation of an illuminated address on vellum, framed and glazed, together with the gold medal of the Society, to Mr. T. W. Sanders for his valuable services to the Society during his term of office, and who, owing to other duties, has been obliged to relinquish the position he held. The delay in making the presentation had arisen from the fact that the Committee were anxious to have a medal that would meet with the satisfaction of all the members and affiliated societies, and the design was one that he thought well worthy of Mr. Sanders' acceptance.

The following is the text of the testimonial, which was a very artistic piece of work:—

NATIONAL CHRYSANTHEMUM SOCIETY.

ANNUAL GENERAL MEETING, FEBRUARY 6TH, 1899.

This Address, together with the large Gold Medal of the Society, is presented to Mr. T. W. Sanders, for some years Vice-Chairman, and afterwards Chairman, of the Executive Committee, as a token of warm personal esteem, and in grateful recognition of the invaluable services rendered to the Society as one of its principal executive officers.

EDWIN SAUNDERS, *President*.
 RICHARD DEAN, *Secretary*.

When the applause had subsided, Mr. Sanders' returned thanks, and in doing so said the chairmanship of a Society like that was no easy matter, but he had always tried to do his duty honestly and be fair to every member. He would always value this mark of their appreciation, and hoped to hand both the medal and the address down to his children, who would, he felt sure, be proud of the position their father had occupied in the Society.

A motion was made concerning the recent complaint about the new Floral Committee regulations, and the matter was referred to that body who alone have power to alter or amend them. It was stated that some of the railway companies were prepared to grant facilities for visitors from the provinces to visit the great November Show.

The next item on the agenda was the report of the sub-committee on affiliated societies. This, it appears, will be submitted at the annual general meeting, and although it was very keenly discussed by representatives of affiliated societies section by section, it was ultimately recommended to be presented to the annual meeting in the form submitted. Briefly summed up it consists of four distinct heads:—

- 1, That all delegates must be bona-fide subscribers to the affiliated societies they represent, and also members of the N.C.S.
- 2, They shall have full power to speak on all subjects, but only allowed to vote on matters relating to affiliated societies.
- 3, Delegates must be elected annually by the society appointed, and their election notified to the Secretary of the N.C.S.
- 4, Affiliated societies may be permitted to purchase an extra medal which may be awarded to non-competitive exhibits of any kind at their shows at the discretion of the judges.

It was announced that the prize money awarded at the October Show amounted to £45 11s. 6d., and the list of medals to various exhibitors was duly passed. The dates of the shows for next year were then considered and finally settled—viz., October 9th, 10th, and 11th; November 6th, 7th, and 8th; and December 4th, 5th, and 6th. The election of fifteen members brought the proceedings to a close.

WOLVERHAMPTON SHOW.

MR. J. H. WHEELER writes, "Referring to the paragraph on page 339, re the coming Chrysanthemum show, I find on reading the schedule that the omission mentioned is a printer's error. Certainly as the matter now stands, it does appear 'something of a novelty.' The second, third, and fourth prizes in this class are £3 second prize, £2 for third, £1 for fourth prize, according to corrected schedule herewith."

A BATTLE WITH THE RUST FUNGUS.

SOME of my Chrysanthemums in pots have been attacked very badly by rust. There was a little on the cuttings, which I dressed with antiblight powder, and the plants appeared quite clean when put out of doors. I also dressed all the pots (48's) with Velthea, according to the directions, but about two months ago I found some rust on a few varieties, immediately syringing them with a mixture of softsoap, soda, paraffin, and sulphur of varying strengths up to $\frac{1}{2}$ pint of petroleum to 2 gallons of water. I syringed them at first as they stood in the rows, then laid them all on a table, wetting every part of the plants before housing. I am now going over them all in the same way again, but beyond washing off the dust or spores, I seem to make no progress. Can you suggest anything farther? I have tried Fostite, but that has no effect. Having over 5000 plants, for any suggestions to prevent the infestation going further, so that I can secure the blooms, I shall be greatly obliged. Mr. R. Fenn swears by powder, but I fear the fungus has too much hold for that to be effectual in my case. Would Bordeaux mixture be of any use?—X. Y. Z.

[We publish the above letter in case any readers can be helpful to our correspondent and others whose plants may be similarly infested with the destructive fungus. The difficulty is in its having "got too much hold" to be easily exterminated, as the mycelial growths have taken possession of the cells and tissues. Fungicides, whether in liquid or powder form, are not recommended by authorities as curatives, but preventives. On this principle Mr. Fenn and others who succeed in keeping the enemy at bay act. "X. Y. Z." would have acted wisely in burning the "few" first infested plants.]

Bordeaux mixture would act as a preventive of the present clean leaves being taken possession of by the enemy. Mr. Cousins, of Wye, has found the following mixture better than the ordinary "Bordeaux": Dissolve $\frac{1}{2}$ lb. of copper sulphate (bluestone) in 5 gallons of water; boil $\frac{1}{2}$ lb. each of newly slaked lime and agricultural treacle with a quart of water for half an hour. When this is fairly cool and the bluestone dissolved, mix the whole and stir well.—("Chemistry of the Garden," page 111).

Just as we are writing we receive from a correspondent the details of a preparation communicated to the "Irish Gardener" by Mr. Baker, gardener to George Mitchell, Esq., Blackrock. Here is the formula: "2 lbs. of fresh lime, 2 lbs. of sulphur, 1 lb. of washing soda and 1 pint of paraffin oil, added to six gallons of water and boiled together for half an hour. After boiling, add 4 ozs. of carbonate of ammonia, 2 ozs. of sulphide of potassium, and 2 ozs. of sulphate of copper, the mixture to be strained and kept in a corked jar until required. One pint of the mixture to four gallons of water Mr. Baker guarantees will kill every spore or germ and completely clean the plants of rust or other fungoid diseases without injury to the foliage."

Perhaps some of our readers will try it experimentally, and report the results. Syringing as ordinarily practised is alike more wasteful of material, and less effectual than spraying. A beautiful spray is produced by one of the nozzles of the Abol syringe, which has been advertised in our columns.]

AUSTRALIE.

As a coloured variety of the section known as incurved Japanese, *Australie* occupies a leading position amongst exhibitors. To grow it well and have it in perfection in October strong cuttings should be inserted singly in small pots under hand-lights, and induced to root quickly by preventing the leaves from flagging. When the pots are filled with roots remove into larger sizes, using a tolerably rich compost until the plants are in 8-inch pots. Two blooms on a plant is sufficient for this variety to finish well and early.

The buds which produce good blooms are early crowns. To obtain these pinch the point out of the plant about the middle of April. Select the two strongest shoots following the pinching, and confine the growth to this number, removing all side shoots immediately they appear. Encourage freedom in growth by attending carefully to

watering, and syringe the foliage in the evening after a hot day. Give them an open position, where all sunlight can be obtained.

When the pots in which the plants are to flower are full of roots supply them regularly with liquid manure or some other stimulant to induce freedom of growth. When the first flower buds form, early in August, restrict the energy of the plants to the development of the two buds upon each by removing all shoots, and buds afterwards. Early in September the plants should be placed under cover in a cool house, giving abundance of light and air. As the blooms develop give shade to them during the hottest part of the day.—E. MOLYNEUX.

R. HOOPER PEARSON.

THIS variety was introduced in spring, at a price that prevented its general culture perhaps, but no one can afford to miss it another season. The build of the flower is not unlike that of *Mutual Friend*. Its florets are much thicker, however, these being of rare substance. The colour is a rich deep golden yellow, glossy in look. The plant grown for show blooms is not more than 4 feet high, with ample well-formed foliage. It is easy of culture, and would form a good bush plant. Altogether it is a variety which marks a distinct improvement among Chrysanthemums.—S.

HOME-RAISED CHRYSANTHEMUMS.

SOMEHOW the large majority of seedling Chrysanthemums raised by persons in these isles have not hitherto improved on acquaintance, notwithstanding that they are first exhibited in excellent form; certainly few have become standard varieties. This comparative failure appears to me caused by the fact that until recently cross fertilising Chrysanthemums has been somewhat indifferently understood in a climate not so favourable to the work as some others. It has been a slow process, and those attempting it have been content with crossing varieties—not the best types, but those which produce seeds the more readily.

One can imagine the variety, pretty well known a few years back, *Mrs. Falconer Jameson*, has been the stock parent in too many cases, and a race of varieties have followed even more uncertain than the type. Dorothy Seward, Richard Dean, General Roberts, Milano, Matthew Hodgson, John Neville, Mrs. J. Shrimpton, Col. Bourne, Royal Standard all bear a family likeness in growth, and differ principally in shades of colour. They are like others that I shall name—varieties fine when caught right, but useless for general cultivation or exhibition whilst we have more constant sorts to select from. William Seward and John Shrimpton are excellent because of their rich shades, although they may not be large enough for present day show purposes; but Geo. Seward, Joseph Brooks, John Seward, Mrs. H. Kloss, Julia Scaramanga, Lady Isabel, and many others are not worth the disappointment they so often bring in trying to obtain a good specimen.

Who that remembers the furore caused by a wonderful bloom of the variety *Robert Owen* a few years back, would have thought it was so soon destined for the rubbish heap? The variety *Mrs. C. E. Shea* won a reputation from one flower and disgusted many a grower afterwards. Mary Molyneux is a sort which is not only ungainly in growth, but its uncertainty is causing most people to discard it. Cecil Wray, Col. Chase, and Violetta, three varieties that were well grown once to obtain certificates, seldom appeared in a similar form afterwards, and Beauty of Exmouth was only grown a season or two.

Standard Chrysanthemums of British origin are few indeed. They are mostly "sports" which is well known may appear anywhere. Edith Tabor was a chance seedling. I am not sure of the origin of that magnificent new yellow variety *R. Hooper Pearson*, yet, I think it not far wrong to state that it was not obtained by cross-fertilisation in England; neither was *Chas. H. Curtis* nor *Duchess of Fife*, those beautiful incurved varieties. Miss Elsie Teichman is the only one of rich qualities from many of the same seed-bed. And so one might go on in reference to seedlings of the past.

The future, however, in the matter of home-raised Chrysanthemums, is likely to be very different, and to no one are lovers of this flower more indebted than to quite a young man—namely, Mr. H. Weeks of Derby. He seems to have struck out in quite another groove, and produces improvements at will. Lady Byron and Mrs. H. Weeks were the varieties resulting from first attempts. The first is a good early white, and the other most magnificent, but difficult of culture, inasmuch as it requires a very long period of time to develop its bloom buds to the dimensions of a show flower. *J. Chamberlain*, a fine dark coloured variety, was the next from this source. Then came a host, many of which are on trial this year. They are certainly a remarkable stock of fine varieties. Mrs. Coombes, Henry Weeks, Emily Towers, Annie Prevost, W. Cursham, Lady Crawshaw—in fact, some twelve sorts—are most promising, and are desirable acquisitions. Not only in size of bloom and colour do they excel, but in their dwarfness of habit and good foliage they appear a break in the right direction.

The appearance of a white bloom (*Madame Cadman*) late last

autumn, which is not yet in commerce, showed by its remarkable substance and beauty that the resources of the raiser named are not exhausted. And yet another noble white bloom, named Miss Alice Byron, was exhibited thus early in the season as a week or two back, so that one may reasonably look for more of similar good quality of other shades. This success has already had the effect of bringing other seedling raisers into the field. We have noted a goodly number in more than one locality lately. H. J. Jones, Mrs. W. Seward, and one or two other varieties, are promising also from another raiser who is not new to the work. If, therefore, this activity goes on we shall be able to look to home-raised novelties to rival those of other countries.—SPECIALIST.

OUTDOOR CHRYSANTHEMUMS.

THE early sorts have withstood a dry summer very well, although they were unusually late in blooming. At least, the flower buds came plentifully enough in September, but the dry roots below prevented them from opening. After the rains, however, a later crop quickly followed, and the display of flowers has been as gay as during other seasons. The usefulness of outdoor varieties is becoming more appreciated each year, the lasting qualities of Chrysanthemums when cut giving them an advantage over most early autumn flowers.

A fresh supply need not be rooted each season, as the old stools when cut down will stand any except a very severe winter. These throw up again in spring, and flower somewhat earlier than those rooted early in the year.

With early Chrysanthemums it is well not to grow too many sorts. There are really very few good ones. Many of the so-called improvements will not bear comparison with old tried varieties. This was strikingly brought to our notice in going through some acres of plants in flower recently. In whites there is none to equal Madame Desgrange, the yellow sport G. Wermig being the best of that shade. Ivy Stark is a first rate bronze, the blooms all opening about the same time. Madame Marie Masse is a capital pink; the new "Crimson" Madame Marie Masse is a good form of similar qualities, the flowers of which are bronzy salmon. Harvest Home produces an abundance of red and gold blooms. Ambrose Thomas forms a striking bush of bronzy-red colour. The above all flower before frost is likely to harm them. A little later is Comtesse F. de Cariel, bronze yellow, and Rycroft Glory, lighter in shade. Roi des Précoces has rich dark crimson blooms; O. J. Quintus, mauve pink, is fine of that shade. Madame Eulalie Morel, salmon pink, is a charming shade, and the variety is early.

Neither Queen of the Earlies nor Yellow Queen of the Earlies are satisfactory in the open. They are first rate under glass, and come at a time, early October, when flowers are much in request. These two, with William Holmes, crimson, and Soleil d'Octobre, would form four excellent varieties to supply a quantity of cut bloom thus early in the Chrysanthemum season.—S.

CHRYSANTHEMUMS ROUND LIVERPOOL.

THE war at the present time is greatly exercising the minds of the Liverpool people, and naturally so, for the great seaport must have ties affecting almost all classes of society in the district. But let us turn from war, in all its stern reality, and think of the many wars and warriors who will meet together in friendly rivalry within the next few weeks, and do battle on behalf of the Chrysanthemum, so rightly named the "Queen of Autumn."

The season, on the whole, has been one of much promise, and from accounts at present to hand we may rely on most of our old names to again represent the district where Chrysanthemum culture was first fostered, developed, and always kept up to a high standard, in spite of many difficulties in the atmospheric conditions of the neighbourhood. Large blooms still find a great amount of favour in many establishments, but there is no denying the fact that the bush form is making rapid progress, and that the smaller free-flowering sorts, which do not seem so susceptible to the "damp fiend," are beginning to be recognised in their true worth (as they most deservedly ought to be); forming as they do many features in decoration that cannot be attained by the larger flowers. Fashion and taste demand this, and so those who would keep at the top of the tree know full well the value of bush plants in conjunction with the exhibition sorts.

The battle in the district will be for the handsome cup of the Liverpool Horticultural Association, with which goes a cash prize of excellent value. It is already attracting much attention by reason of its having been won once by three different exhibitors—viz., by Mr. R. C. Townshend of Oswestry, in 1896; Mr. G. Burden, gardener to Mrs. Cockburn, Oxtun, in 1897; and Mr. J. Heaton, gardener to R. P. Houston, Esq., Aigburth, in 1898. The latter is without a doubt one of the most persevering of our younger gardeners, and whoever beats him will have to come with really good material.

Mr. Heaton is also the holder of the grand "Cressington cup," the gift of A. L. Jones, Esq., having won it twice out of three times, and

if successful this year it will become his own property. Although not growing a very large quantity, he has few blanks, and the double task set him will be watched with interest. There are also many other good growers whom I hope to favourably mention during the season, and one although not an exhibitor—viz., Mr. Doe of Knowsley Hall—in particular. He had a grand collection last season, but illness prevented my seeing them at the right time. With these few remarks I must close, knowing full well that for the next few weeks the interest attached to shows in other parts than Liverpool will be eagerly awaited by all gardeners here. The parks, too, of Liverpool will be carefully noted in every respect.—R. P. R.

SOUTHWARK PARK.

THE Chrysanthemums in Southwark Park are not yet at their best, but enough could be seen of them at the time of our visit to justify the prophecy that they will be quite equal to those of former years. Here, as at most public displays nowadays, the Japanese by their bright colour and fantastic form seem to claim the greatest attention. Mr. Curle's collection will be found in the T-shaped glass structure, as in former years, the nearest entrance to the park being that situated in the Gomm Road.

A few of the old type of incurved are, however, in good form, and of these Prince Alfred is one of the best. Mons. R. Bahuant, a big, solid, similar toned flower, is another. D. B. Crane and Globe d'Or in yellows are coming on, and Mrs. R. C. Kingston is rapidly developing. Others like R. Cannell, the rich golden chestnut Baron Hirsch, and Duchess of Fife, pure white, very compact, and incurving closely, are fast improving.

The Japanese are mostly old-established varieties, and selected for their usefulness in effect, and Elaine, the old white favourite Japanese, is one which is now almost eclipsed by the equally early Emily Silsbury of the same pure shade, but generally larger in build. In the same colour Mdle. Marie Hoste is also attractive and good. King of the Hirsutes, a very pure pale lemon yellow, and a hairy variety of the Japanese type, is also attractive. Somewhat richer and warmer in tone is Gloire de Mezin, very valuable in mixed groups, the colour being a golden orange shaded bronze, a close and compactly built flower. Other Japanese that are conspicuous for their colour are J. H. Runchman, Madame Ed. Rey, L'Ami Etienne, Wm. Tricker, Stanstead Surprise, Hamlet, H. Shoesmith, Sunflower, Mrs. J. Shrimpton, Oceana, Lizzie Seward, and Gambetta. There are too many of the newer varieties but these are somewhat later in developing their buds.—P.

EARLSWOOD NURSERIES.

MR. W. WELLS, whom we visited a few days ago, always has a capital display of finely developed blooms, and his collection is almost wholly comprised of novelties, there being few old sorts grown, and of these the Australian seedlings form a very conspicuous feature of the display. Many of them are seedlings raised by Mr. Thomas Pockett, of Victoria, during the past two or three years. Most growers interested in novelties will remember Nellie Pockett and John Pockett, introduced last season. These are both doing well again. Others include Mermaid, a fine large white Japanese; Janet, Lady Clark, a long quilled petalled Japanese, something in the style of Mr. T. Carrington, but deeper and richer in colour; Wonderful, deep golden buff yellow reverse, with inside of chestnut crimson; Pride of Stokell, crimson and gold; Wattieblossom, very globular in form, with long drooping twisted florets, colour deep lemon yellow; Miss Lucy Cheeseman, a Japanese with immense florets, very compact, colour pale greenish yellow; J. R. Upton, a fine yellow Japanese; Australian Belle, very large, with long tubular florets, curly at the tips, and slightly hairy, colour lilac mauve; Miss Ida Barwood, Japanese, pure white; Silver Queen, very long florets, a pretty shade of deep rosy pink; Lord Salisbury, a huge Japanese of a pure canary yellow, with florets of great length, forming an immense bloom; and several others, not sufficiently advanced at the time of our visit to warrant description.

Continental novelties are principally represented by M. Ernest Calvat, although there are several very promising ones from M. Nonin. Of the former's seedlings, mention may be made of some noble blooms of Le Grand Dragon, M. Fatzer, President Bevan, Mons. Chenon de Leché, Madame Lucie Recoura (new, large purple amaranth coloured Japanese with a silvery reverse), Soleil de Décembre, M. H. Martinet, Marie Calvat, Madame Aristide Rey, and several others.

Other continental varieties are Mons. Louis Remy, a pretty pale yellow sport from the white form of Mrs. C. Harman Payne; Amateur J. Le Chaplais, a superb Japanese of great size, grooved florets, colour reddish salmon with reverse of deep golden bronze. François Pilon is deep rich golden yellow, has long tubular florets, and a huge flower. Madame Gabrielle Debrie, Japanese of good form, very compact, colour flesh pink. Of others we noticed Chrysanthemiste Lemaire, chestnut and gold; President Felix Salhut, white, and Mdle. J. Lieber rosy white.

Kathleen Rogers, a very fine pure white Japanese incurved with broad grooved drooping florets; R. Hooper Pearson, fine massive flowers of deep golden yellow; Mrs. Coombs, a pretty shade of delicate lilac mauve tinted pink; Lord Ludlow, large flower, pale lemon yellow, rather broad florets; Mrs. White Popham is as big and as solid as last year. Others of recent introduction, such as H. J. Jones, dazzling crimson and gold, Emily Towers, Lady Phillips, and Jane Molyneux are advancing rapidly.—C. H. P.

SCHEDULES OF SHOWS.

EVESHAM.—NOVEMBER 3RD.

THE schedule of the Evesham Chrysanthemum Society, whose Show will be held in the Town Hall on the above date, comprises thirty-nine classes in all, of which about fifteen are devoted to Chrysanthemums, while the remainder include prizes for fruits, vegetables, and plants. An 8-guinea challenge cup and £2 are offered in a class for a group of Chrysanthemums not exceeding 40 square feet in size; the second and third prizes being of 30s. and 20s. respectively. In the cut bloom section the principal interest will be centred in the class for twenty-four Japanese, distinct, for which the Committee offers £5, £3, and £2, which ought to bring good competition. Mr. George Witts, Bengeworth, Evesham, is the Secretary, and all entries must reach him by the 30th inst. Mr. Witts will also furnish necessary particulars to intending exhibitors.

LEEDS PAXTON.—NOVEMBER 14TH AND 15TH.

Before calling particular attention to the leading features in the schedule of the Leeds Paxton Society, we wish to correct an error which appeared in the list of shows on page 338 of our last issue. It was there stated that Mr. Campbell was the Secretary, whereas we should have said that Mr. Wm. Smith, The Gardens, Weetwood Hall, Leeds, is the Secretary, to whom all communications must be addressed, and who will receive entries up to November 6th. There are two open group classes, one for miscellaneous plants and the other for Chrysanthemums, and amongst the prizewinners £26 will be divided. For twenty-four incurved a 7-guinea challenge cup and £5 constitute the premier prize, with £3 and £2 for second and third. For a similar number of Japs £6, £3, and £2 are offered, these two classes also being open. In the restricted section a 5-guinea cup is offered for twelve incurved, distinct, and a cash prize of £3 will be added to the best exhibit; the second and third prizes are £2 and £1. The sum of £7 is allotted for twelve Japanese, while there are numerous other prizes in this section, as are there in the classes limited to members of the Society. In this age of big blooms it is curious no cup is offered at Leeds for Japanese Chrysanthemums. The total prize money offered exceeds £133. The Show will be held in the Town Hall.

SHEFFIELD.—NOVEMBER 10TH AND 11TH.

As usual the Sheffield Chrysanthemum Society's Exhibition will be held in the Corn Exchange, and will doubtless be of the customary excellent standard. Mr. Wm. Housley, 28, Joshua Road, Nether Edge, Sheffield, is the well known Secretary, and he will be open to give any information required; all entries must be received by November 3rd. In the open cut bloom section there are two classes, one for twenty-four incurved and the other for twenty-four Japanese, the prizes in each case being of the respective values of £7 10s., £5, £3, and £2, which certainly ought to prove sufficiently tempting. In the restricted section £4 10s., £4, £3, £1 10s., and £1 are offered for a group of Chrysanthemums arranged for effect, while there are in addition many prizes for cut blooms, specimen plants, and fruit. The Sheffield Society supports an excellent amateur and cottagers' section, that comprises about fifteen classes, and in some of which most excellent prizes are offered. Despite the limited conveniences they can command the Sheffield amateurs show excellently every year.

WINDSOR.—NOVEMBER 9TH.

The Royal Albert Institute has been chosen as the venue for the eighth annual Show of the Windsor and Eton Chrysanthemum and Horticultural Society, for which the entries close on November 2nd. The schedule contains about 3½ dozen classes for Chrysanthemums, various plants, fruits and vegetables. There are open classes for a group, four specimen plants, and Japanese and incurved blooms. In the section for residents in the Society's district there is a class for twelve Japanese and twelve incurved, in which a 5-guinea challenge cup is added to the premier award of 30s. The second prize is 30s., and the third 10s. Applications for schedules and information must be made to Mr. Herbert Finch, Bank House, Eton, who is the Honorary Secretary.

ILFORD RECREATION GROUND.—The first prize of 50 guineas, for the best design for laying out the Green Lane Recreation Ground at Ilford, has been awarded to Messrs. W. Barron & Son, landscape gardeners at Elvaston Nurseries, Borrowash.

PINCHING FRUIT TREES.

YEs, I still consider Mr. Mitchell (page 277) a bold man, and a pains-taking one to boot. He seems to have been pinching experimentally for years, the result being abundance of dormant blossom buds, but no fruit. In the study of blossom bud formation Mr. Mitchell has evidently fully employed his powers of deep thinking; but, like many other deep thinkers, he does not seem to have the gift of making the best practical use of his deductions, or he certainly would not have been contented to pinch for ten years a tree growing under unfavourable conditions. Knowing the conditions were unfavourable, how much more practical it would have been to have lifted and replanted the tree in question in a better site, or have carried out his experiments on trees more favourably placed, so that his labours might have met with due reward.

I will enter into no argument against the points raised, that "a check to the sap will cause fruit buds to appear," or that the circular

motion of the sap caused by pinching will result in the formation of extra incipient buds, which break through the bark, as I believe, it to be a true statement of facts, and have never expressed a contrary opinion. But this is not the ground on which I object to pinching as it is too often practised. My point is this—that pinching is necessary under an artificial system of culture, in order to crowd a number of blossom buds into a given space; but when trees are allowed ample room to develop, with correct treatment in other respects, blossom buds will form naturally without the aid of pinching. In such cases the only real necessity for pinching is first to form a properly balanced tree, and subsequently to keep the centre of such tree open, so that the sun and air may reach every part.

Now let me hark back to Mr. Geo. Picker's note (page 317) which started this interesting controversy. The question he put was, "Can any practical reader of the *Journal of Horticulture* prove that pinching or stopping of the shoots of fruit trees will produce large healthy fruit buds on trees so pinched earlier than trees that are not pinched?"

Mr. Mitchell certainly does not attempt to do so.

FIG. 70.—FRUIT BUD FORMATION.

What he has shown us is that pinching produces a greater number of such buds (or dormant ones) in a given space, and to my mind that is the weak point about restricting trained trees; we get too many blossom buds in a given space, so many that it is often necessary to thin them to get large healthy buds. For this reason I quite agree with Mr. Picker that, "if a dozen trees were grown side by side, six of them being pinched, and the others only pinched for training, at the end of six years the unpinched trees would have produced more and better fruit than the pinched ones."

I cannot hope to approach Mr. Mitchell in the clear portrayal of shoots, leaves, and buds, as my early efforts at drawing were directed to the science of geometry rather than to the art of sketching, but if your artist will step in, and give to my rough sketch due proportion between leaves and buds, my slight effort may not have been made in vain. I have tried to show that an unstopped shoot will produce buds quite as quickly as one that has been stopped. The illustration shows a shoot cut from a standard tree of Cox's Orange Pippin Apple. No. 1 is the growth of the current year, which started from a point between buds 2 and 3; these are buds which will blossom next year, when they will be slightly under two years old. No. 4 is a bud formed close to the bark, which close examination shows was the base of a former fruitstalk; it will not blossom next year. Nos. 5 and 6 are



Blossom buds formed on a short sturdy shoot, 6 being the fuller and stronger of the two. The whole of these buds have formed on wood which will be two years old next summer, and they have been produced quite as freely on the majority of shoots of the same age on the tree from which the shoot illustrated was cut. The branches on this tree are thinly disposed, and I note that the current year's growth on the greater number of shoots varies from 6 to 9 inches, a few being somewhat longer.

The question I now put is, When such wood and buds can be secured without pinching, what is the use of pinching, except in the case of trees trained on the restriction system?—H. DUNKIN.

A PLEA FOR THE USE OF BRITISH WILD FLOWERS IN THE GARDEN.

THE subject which I am allowed to introduce to-night was suggested by an incident which occurred last summer. A foreign visitor to my nurseries in the leafy and floriferous month of June remarked frequently, when specially beautiful objects were brought to his notice, "Yes, pretty; but weeds, mere weeds."

Well, "weed" is, after all, only another name for an indigenous plant which is out of place amongst garden and farm crops, however beautiful it may appear in its own element, and it then struck the floricultural part of my conscience whether we as gardeners had not neglected many beautiful British plants in our eagerness for novelties for enriching our gardens, which "foreigners" were, of course, weeds in their native lands. Then a vision of many lovely combinations in Dame Nature's landscape gardening rose before me; for instance, next to my farm is a Chestnut wood, on sandy soil, where the background was the tender young foliage of the Spanish Chestnut, while the foreground was a mass of the wild Hyacinth—the Bluebell of one's childhood—which for some three weeks maintained its enchanting display, and as it faded a graceful crop of Campion (*Lychnis diurna*) succeeded it, and formed an equally charming effect. In another case, for some half mile ahead, while travelling in Wilts, I saw a mass of rosy purple peeping out between the dark green foliage and nut-brown boles of a Scotch Fir grove. Here, to my surprise, the ground was covered with *Epilobium angustifolium*, and my driver said it was thus glorified every season. These are only two examples of many hundreds, as before a body of horticultural experts I need hardly mention the Buttercup fields and the Primrose and Anemone woods.

I shall rather call to mind some wild British plants that seem to me deserving of garden culture, if not in the herbaceous border, yet as masses in the wild garden and woodland walks where clumps of introduced exotics seem to mock the natural sylvan beauty. It has been noticed that masses of the same colour frequently follow each other, yellow being the prevailing late spring colour, while blue is the first in the series and yellow returns again in the autumn. One reason for the neglect of wild flowers is doubtless the difficulty of collecting the plants at the right season for transplanting, when many are lost among the surrounding herbage and grasses; but probably the best method would be to collect their seeds and sow them in beds for transplanting afterwards. One knows from experience that few plants collected on holidays ever come to perfection.

It may be as well to start with spring flowers, among which the blue Hyacinth before named holds a conspicuous place, and may well be massed in the front portions of shrubberies or underneath deciduous shrubs, as they can there be at home, and not in any way interfere with garden flowers. The Primrose can be naturalised in any moist position, and should not be shocked by contact with the coloured garden types, as its simplicity and its modest beauty need only its own foliage as a relief; we must not omit Violets and the later Dog Violets, while the Germander Speedwell (the Cat's-eye of the children) is a weed with remarkably striking blue flowers, and patches on the rockery will not be out of place. The Yellow Nettle (*Galeobdolon*) is one of our first spring flowers. I have noted in a park entrance large masses of the Bugle (*Ajuga*) produce a pleasing effect, and I have noted a white form, and one of a pinkish shade. While on the subject of woodland drives and grassy-edged roads leading to mansions, I may mention that much of the beauty of the natural flora is destroyed by too close mowing, and would suggest that a 12-feet bordering is enough to be mown, and beyond that, if cut over or cleared once a year the natural flowers would flourish in the grass, and lend a charm to the scenery, and in a small way reproduce an Alpine meadow. Here Cowslips, Cuckoo-flowers (*Cardamine*), the Centaury, Bugle, and Prunella, with the Primrose and yellow Toadflax are seen to advantage with patches of wild Heather and Foxgloves.

In summer the wild Orchises give us both striking flowers and interesting species for massing and special positions. *O. mascula* and its numerous varieties are good, and I have seen *O. maculata* in Scotland called *O. magnifica*, which was specially grand. The Butterfly Orchis (*Habenaria*), with its elegant spikes of pale scented Primrose flowers, delights in a shady nook. The Twayblade, the Man Orchis,

and the less common *O. fusca*, *O. pyramidalis*; while *Ophrys apifera*, *O. muscifera*, and *O. latifolia* are worth close inspection, and for shady places the *Epipactis* are well worth prepared stations in the garden, giving them leaf soil, chalk, or sandy loam as required. *Trollius europæus* is already an established garden favourite, while the Foxglove (*Digitalis*) is one of our grandest natives, and can be easily propagated by seed, and forms glorious masses for backgrounds. The Mulleins are worthy of culture, with their flannel-like foliage and long, conspicuous flowering spikes of yellow blooms. The Teazle is a bold plant for a bed, and is not only pretty in flower, but fine subjects for winter decoration are provided by its honeycomb-like heads of seed-vessels.

What shall I say for the Corn Poppy, with its glorious scarlet flowers all too evanescent? We must always have a tender remembrance of this as the parent of our super-elegant Shirley Poppies. In the west the yellow Welsh Poppy is frequent near streams, and there is nothing in rich blue flowers that can approach the Viper's Bugloss, seen in masses on sand and shingle near the sea; it is superb, and deserves a prepared spot in the garden, where its gorgeous racemes can be thoroughly enjoyed. For a border plant *Geranium pratense*, with its lavender flowers, is well known. The various Hawkweeds (*Mouse* and *Cat's-ears*) are pretty yellow and primrose flowers. The wild Balm, *Melittis*, is a fine plant for banks, and runs into many varieties. For positions under trees the Periwinkles, major and minor, are suitable, and look well all the year round; while *Melampyrum sylvaticum*, the Wood Cow-wheat, is fine in masses. In North Wales there seems to be a larger variety than is found in Kentish woods. The Maitrank or Woodruffe also makes a pretty carpet plant, and in early spring the yellow *Celandine* is very bright.—(Paper read by Mr. GEORGE BUNYARD, V.M.H., at a meeting of the Horticultural Club.)

(To be concluded.)

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—OCTOBER 24TH.

THE display in the Drill Hall was a most excellent one, and comprised exhibits of exceptional diversity and interest. Both fruits and vegetables were exceptionally good, as were, for the time of year, Orchids. *Chrysanthemums* were, of course, in great form.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with the Rev. W. Wilks and Messrs. R. Parker, J. Cheal, W. Poupert, M. Gleeson, W. Pope, A. Dean, S. Mortimer, W. Bates, C. Herrin, J. Smith, F. Q. Lane, G. Reynolds, R. Fife, and G. Bunyard.

Messrs. H. Cannell & Sons, Swanley and Eynsford, staged a splendid collection of vegetables from the firm's Eynsford nurseries. A considerable amount of space was worthily occupied, and would have been more appreciated if a more prominent position in the hall had been at disposal. The Potatoes comprised forty varieties, and included Satisfaction, Snowball, Perfection, Up-to-Date, Snowdrop, Lord Tennyson, Windsor Castle, Hearts of Oak (new and attractive), Come to Stay, Schoolmaster, Pride of Tonbridge, Pink Perfection, and Cannell's Seedling. Then there were Onions Ailsa Craig, Cranston's Excelior, and Cocoa Nut; Carrots Cannell's First Prize and Prizewinner; Parsnips Cannell's First Prize; Leek Cannell's Mammoth; Beet Exhibition; Cabbage Cannell's Defiance; Cauliflower Autumn Giant; Savoy Cannell's Drumhead, with Gourds, large and small, for diversity.

Mr. W. Pope, gardener to Lord Carnarvon, Highclere Castle, sent a collection of vegetables of excellent quality. The best dishes were Onions Ne Plus Ultra, Aristocrat, Ailsa Craig, and Excelior; Potatoes Abundance, London Hero, Reading Russet, and Ideal; Carrots Scarlet Model, Perfection, Long Red Surrey, and Early Gem; Brussels Sprouts Dwarf Gem and Exhibition; Parsnips Dobbie's Selected and Tender and True; Savoy Green Curled; Cucumbers Model and Sensation; Tomatoes Best of All and Polegate; Celery Early Rose and A1; and Cauliflower Autumn Giant. Mr. Will Taylor, Hampton, Middlesex, staged six bunches of Grapes Reine Olga from outdoor Vines.

A collection of Apples was shown by Mr. C. Herrin, Dropmore, Maidenhead. The specimens were clean and of medium size, and included such varieties as Cox's Pomona, Peasegood's Nonesuch, Lane's Prince Albert, Tyler's Kernel, Newton Wonder, Grenadier, Lord Derby, Gloria Mundi, Wellington, Warner's King, Golden Noble, and Beauty of Kent, with a dish of Brahy's Late Gage Plums. Mr. Marcham, gardener to J. Warren, Esq., Handcross, Sussex, contributed a collection of Apples and Pears. The best of the former were Gloria Mundi, Betty Geeson, Annie Elizabeth, New Hawthornden, Ribston Pippin, The Queen, Peasegood's Nonesuch, Warner's King, and Cox's Pomona. Of Pears, the best were Marguerite Marillat, Doyenné Boussouche, Durondeau, Louise Bonne de Jersey, Fondante d'Automne, and Knight's Monarch.

Apples were well shown by Messrs. J. Laing & Sons, Forest Hill. The collection comprised Lord Suffield, Blenheim Pippin, Gloria Mundi, Queen Caroline, Warner's King, Lane's Prince Albert, Peasegood's Nonesuch, Lord Derby, Bramley's Seedling, Golden Noble, Striped Beeching, Wellington, Tom Putt, and American Mother. Mr. G. Wythes, V.M.H., gardener to the Duke of Northumberland, Syon House, Brentford, exhibited Apples and Pears in some considerable numbers. The best of the latter were Pitmaston Duchess, Doyenné du Comice, Marie Louise, Beurré Superfin, Beurré Diel, Emile d'Hayat, and Conference. The pick of the Apples were Blenheim Pippin, Cellini, Alfriston, Lane's Prince Albert, Lord Suffield, Belle Dubois, Warner's King, and Lord Derby.

Mr. T. Coomber, gardener to Lord Llangattock, The Hendre, Monmouth, sent a collection of Apples and Pears, in which quality took the place of quantity. Splendid examples of Apples Schoolmaster, Gascoyne's Seedling, Cox's Orange Pippin, Dumelow's Seedling, Blenheim Pippin, Lord Derby, Peasegood's Nonesuch, Newton Wonder, Bramley's Seedling, Sandringham, Bismarck, Lady Henniker, The Queen, Lane's Prince Albert, Gloria Mundi, and Warner's King were observed. The best Pears were Beurré Fouquieray, Catillac, Durondeau, Beurré Baltet Père, Beurré Bosc, Conference, Beurré Hardy, Emile d'Heyst, and Doyenné du Comice. Messrs. J. Veitch & Sons sent Strawberry St. Joseph, in fine fruit.

Mr. Owen Thomas, gardener to her Majesty the Queen, Windsor, sent a large table of fruit, in which the Apples were most conspicuous. The specimens were clean, well coloured and of even size, and included Apples Newton Wonder, Lord Derby, Stone's, Mère de Ménage, Emperor Alexander, Peasegood's Nonesuch, Sandringham, Ribeton, Golden Noble, Fearn's Pippin, Scarlet Nonpareil, Cox's Orange Pippin, Frogmore Prolific, Wellington, Egremont Russet, Blenheim Pippin, and Allington Pippin. Of Pears the best were Flemish Beauty, King Edward, Marie Louise, Catillac, Gaslin, Beurré Clairgeau, Louise Bonne de Jersey, Doyenné d'États, Vicar of Winkfield, Beurré Bosc, British Queen, Beurré Superfin, and Thompson's.

A splendid collection of market fruit was exhibited by Mr. Geo. Monro, Covent Garden Market, which consisted of flats of Grapes, contained in baby baskets, comprising excellent examples of Black Alicante, Canon Hall Muscat, Gros Colman, Muscat of Alexandria, and a variety called Turnford Hall Alicante, bearing the bloom of the Black Alicante, but with berries larger than the Gros Maroc. The baskets of Tomatoes were excellent, as were also boxes of Peaches, Apples, Pears, and bunches of Bananas. It formed a very instructive exhibit.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Drury, H. B. May, R. Dean, W. Howe, J. Hudson, H. J. Cuthbert, J. Jennings, J. F. McLeod, H. J. Jones, T. Peed, R. B. Lowe, H. Selfe Leonard, D. B. Crane, J. Fraser, C. E. Pearson, C. Jefferies, C. R. Fielder, G. Gordon, C. E. Shea, E. H. Jenkins, E. T. Cook, E. Beckett, and O. Thomas.

Mr. W. J. Godfrey, Exmouth, Devon, arranged a large table of show blooms with an edging of small Maidenhair Ferns and trails of Smilax. The bank of large flowers was relieved by numerous vases of decorative varieties, which were arranged with Asparagus, giving the whole a pleasing effect. The best large flowers were Corsair (an American variety, a wine red with a lighter reverse), Le Grand Dragon, Madame J. W. Budde (a promising variety), J. R. Upton, Mrs. Coombes, and Mrs. Probin. The decorative varieties included Mrs. E. V. Freeman (a crimson), Miss Mary Godfrey, Ettie Mitchell, and Emily Grunerwald.

Messrs. W. Wells & Co., Ltd., Redhill, staged three boxes of show blooms in good form, also a few promising seedlings as well as decorative varieties. The chief of the show flowers were Rayonnante, Major-General Symons (a good yellow), H. J. Jones, R. Hooper Pearson, and Lady Phillips. The new seedlings included Sir Redvers Buller (a good crimson with a gold reverse, which has the appearance of making a good flower), Lord Salisbury (a large yellow, slightly suffused with bronze), and Etoile de Fen. The decorative varieties included baskets of Mychett Beauty and Nellie Brown.

Mr. Norman Davis, Framfield, Sussex, arranged a graceful exhibit of Chrysanthemums, arranged in tall vases, interspersed with bunches of Michaelmas Daisies, also a few ornamental baskets filled with Pompons. The best show blooms staged were Mutual Friend, Jas. Bidecove, Lady Phillips, Miss Alice Byron, Amy Ensell, and Miss Maud Douglas. The baskets were very attractive, arranged with fronds of bracken. A splendid group of Chrysanthemums was arranged by Mr. H. J. Jones, Lewisham, flanked on each side with a group of Crotons and Dracenas, the whole being arranged in a border of Ferns, Aralias, and Panicum variegatum. The group was in every way worthy of Mr. Jones' reputation as an artistic exhibitor. The most noteworthy Chrysanthemums were Mrs. W. Seward, Queen of the Exe, Rayonnante, Kathleen Rogers, Lili Bouroy, Mrs. A. H. Hall, Lionel Humphrey, H. J. Jones, and Mr. A. H. Barratt.

Messrs. R. & G. Cuthbert, Southgate, contributed an attractive group of Mrs. Wingfield Chrysanthemum, a beautiful pink, now well known. The exhibit was well arranged in Ferns, and presented a charming appearance. A beautiful group of early flowering Chrysanthemums was arranged by Messrs. T. S. Ware, Ltd., Tottenham. The plants were growing in 5-inch pots, and made a bold display. The best varieties were Gloire de Mezin, François Villermet, Mychett Beauty, Golden Queen of the Earlies, Bouquet de Feu, O. J. Quintus, Alex. Dufour, and M. Jacobs. Messrs. H. Cannell & Sons, Swanley, also contributed a display of good blooms arranged in bunches, with three or four flowers in each bunch. The most notable varieties were Madame C. Terrier, Edith Tabor (good), Mrs. S. C. Probin (in fine form), Ella Curtis, General Paquie (a beautiful flower), Mutual Friend, Madame Lucie Recoura, and Lord Cromer.

Mr. J. Forbes, Hawick, arranged a group of the well known Begonia Gloire de Lorraine, with a white sport called Caledonia, which appears to be the exact counterpart of the pink form. Messrs. J. Laing & Sons, Forest Hill, sent specimens of their clipped Yew and Box trees, also a variety of variegated Conifers and Golden Privet. A very interesting group of seedling Caladiums were exhibited in thumb pots by Mr. Thos. Tomlinson, gardener to N. R. Hoffman, Esq., West Dulwich. The seedlings were obtained from a pod of B. S. Williams crossed with Mrs. Harry Veitch and Alfred Bleu. The seedlings showed a considerable variation in colouring, and were decidedly interesting.

Mr. H. B. May, Dyson's Nurseries, Edmonton, arranged an artistic group of Begonia Gloire de Lorraine arranged in a bed of Maidenhair

Fern and Isoplepis gracilis. Messrs. J. Cheal & Sons, Crawley, staged a table of autumnal foliage, which was selected from the following plants:—Quercus coccinea, Berberis Thunbergi, Amelanchier canadensis, Cornus sibirica, and Euonymus europæus, besides several other ornamental trees. One of the best exhibits was a group of Pernettyas and Skimmias from Messrs. W. Cutbush & Son, Highgate. The Pernettyas were well berried and the plants well grown. The most noteworthy varieties were P. mucronata elegans, P. m. purpurea, m. ilacina, m. alba, beautifully berried, m. macrocarpa and m. roses. The Skimmias were well berried, and the exhibit proved to be a pleasing display. An effective display of foliage plants was arranged by Messrs. J. Peed & Sons, Norwood, comprising chiefly Dracenas in variety, Crotons, Palms, Phryniums, Pandanus, and a variety of other foliage plants, the groups being effectively arranged.

Messrs. Jas. Veitch & Sons, Ltd., again arranged a beautiful box of their hybrid Rhododendrons. The flowers were unusually bright, and the most noteworthy varieties were Indian Yellow, Hercules, Maiden's Blush, Exquisite, Amabile, Monarch, Ariel, and Aphrodite. From Mr. J. Warren, Handcross Park, Sussex, came three varieties of Dracenas. The varieties were D. Warreni, D. Offeri, and D. Marchamiana.

Messrs. W. Paul & Son, Waltham Cross, staged three baskets of Roses, Boadicea, Sulphurea, a lemon-coloured Tea, and Exquisite, a Hybrid Tea of exquisite perfume, and evidently free-flowering.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De Barri Crawshaw, H. Little, H. J. Chapman, W. H. Young, F. J. Thorne, H. Ballantine, J. G. Fowler, J. Douglas, E. Hill, and J. Jaques.

Mr. E. Kromer, Bandon Hill, N. Croydon, contributed a group of Cattleya labiata, in which the form named Bandon Hill variety was the most conspicuous. Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited a small group of Orchids, comprising Lælio-Cattleya Epicasta, L.-C. Wellsiana, L.-C. Hermione; Cattleyas labiata, Wendlandiana, and Eurydice; Cypripediums Charlesworthi and ceananthum; Oncidium Forbesi, varicosum, and incurvum, with Sophro-Cattleya eximia. Mr. H. Whiffen, gardener to J. Bradshaw, Esq., The Grange, Southgate, was represented by a collection of Orchids in which Cattleyas Mantini nobilior, labiata glauca, labiata alba, and labiata leucocilia, Lælia autumnalis atro rubens and Lælia præstans were conspicuous. Mr. F. Knight, Thundersley, Essex, sent Cattleyas and Dendrobiums with one or two Cypripediums.

Mr. H. J. Chapman, gardener, to R. I. Measures, Esq., Camberwell, had a very beautiful form of Cattleya labiata named Mrs. R. I. Measures. It is a white form with a grand lip, of which the central colour of the lip—rich crimson—extends from the front lobe to the base of the throat in lines without a break; the side lobes are lemon yellow. A splendid spike of Vanda cœrulea came from the Duke of Northumberland, Alnwick Castle.

MEDALS.—Fruit Committee: Gold medals to Mr. Owen Thomas, V.M.H., and Mr. T. Coomber; silver-gilt Knightian medals to Messrs. W. Pope, J. Warren, G. Wythes, V.M.H., and H. Cannell & Sons; and silver Knightian medals to Messrs. J. Laing & Sons and C. Herrin. Floral Committee: Silver-gilt Flora medal to Mr. N. Davies; silver Flora medal to Mr. W. J. Godfrey; silver-gilt Banksian medal to Mr. H. J. Jones; and silver Banksian medal to Messrs. R. & G. Cuthbert, H. B. May, T. S. Ware, Ltd., and W. Wells & Co. Orchid Committee: Silver Flora medals to Messrs. J. Veitch & Sons and J. Bradshaw, and silver Banksian medals to Messrs. F. Knight and E. Kromer.

CERTIFICATES AND AWARDS OF MERIT.

Adiantum Burni (W. J. Burn).—A very long elegant frond. The colour is light green, and it should be useful for decoration (award of merit).

Apple Paroquet (C. Ross).—A deep narrow Apple almost wholly covered with red except for a patch of yellow on the shaded side. The stalk is merely a knob deeply inserted, and the eye is medium sized, and half open (award of merit).

Cattleya Princess (J. Veitch & Sons).—This is from a cross between C. Triana and C. Luddemanniana. The flower is striking. The sepals and petals are deep rose and the lip purple crimson (award of merit).

Chrysanthemum Florence Molyneux (N. Molyneux).—A magnificent incurved Japanese with broad stout ivory white florets. The flower is of great size (award of merit).

Chrysanthemum Le Grand Dragon (W. J. Godfrey).—A reflexed Japanese with narrow bronze yellow florets. A deep, heavy, well-built flower of good type (award of merit).

Chrysanthemum Miss Alice Weeks (H. Weeks).—A pure white incurved Japanese with broad stout florets (award of merit).

Chrysanthemum Miss E. Pilkington (N. Molyneux).—A reflexed Japanese with long yellow broad florets, inclining to bronze in the centre. May be described as a glorified Boule d'Or (award of merit).

Chrysanthemum R. H. Pearson (W. Wells & Co.).—A superb yellow that is now well known (award of merit).

Grape Reine Olga (W. Taylor).—A splendid Grape for outdoor culture. The colour is red and the berries are very large for outdoor Grapes. The flavour is excellent (award of merit).

Lælia Mrs. M. Gratrix (J. Veitch & Sons).—This resulted from a cross between L. Digbyana and L. cinnabarina, and both parents may be seen. The prevailing colour is buff, and the lip largely partakes of the first named parent in form, and is flushed with rose (award of merit).

Lælio-Cattleya Duchess of York (J. Veitch & Sons).—This is from Cattleya Gaskelliana and Lælia crispata. The sepals and petals are rosy white, and the handsome lip is velvety crimson (award of merit).

THE GROWTH OF THE FRUIT TRADE.

Such was the title of a paper read during the afternoon by Mr. Geo. Monro, V.M.H., before a comparatively large attendance of Fellows, who had gathered to hear the essayist's views on this subject, and no one, it will be admitted, is better qualified for the task. Mr. Monro referred to the enormous development in the traffic in fruit, noticing not only the immense increase in home productions, but also the consignments that reach us from practically all quarters of the globe. He observed that thirty years ago there were few beyond English orchard-grown Apples in the market, while now we receive supplies from Canada, Nova Scotia, New Zealand, Tasmania, Australia, and American States. The excellence in packing was also dealt with, and emphasis laid on the fact that the form in which produce was placed on the market made practically the whole difference between success and failure. Pears claimed a brief share of attention, and Mr. Monro apparently favoured Californian and other imported fruits over the English. Outdoor soft fruits, such as Strawberries, with the several other kinds, were adverted to in an interesting manner, and many elucidatory figures were given.

Mr. Monro then proceeded to speak of the crops of Grapes and the quantities of home grown fruit that were produced, and in illustration of his text mentioned that his firm distributed in the week preceding last Christmas 34 tons of excellent Grapes from Covent Garden alone with 6 tons from the Manchester house. He spoke in high terms of the excellence of English Grapes, both as regards appearance and flavour, and mentioned the fact that his firm did a regular traffic in them with Germany, Austria and Sweden, but confessed to inability to deal with France owing to the prohibitive duty of 2s. on every pound. Tomatoes, Pines, Bananas and other fruits each came in for turn, and the subject proved most entertaining to the audience.

CARYOPTERIS MASTACANTHUS.

THIS would be a welcome addition to the garden at any time of the year, but it is doubly welcome from its blooming in the autumn, when good flowering plants are apt to be scarce. A native of China, it is fairly hardy in the London district, but farther north it would probably require a certain amount of shelter. It succeeds well in pots if not kept too warm or close, and forms a good plant for conservatory or house decoration. The flowers are very useful for cutting, as they keep fresh a considerable time in water, and will expand if cut in a bud state.

Of a sub-shrubby or nearly herbaceous habit, it throws up numerous shoots from near the ground, forming a graceful plant about 3 feet high, and having a striking appearance when covered with its brilliant violet-blue blooms. The flowers are in axillary clusters on short stems, and individually small, but are borne in large numbers from nearly every joint of the upper half of the stems. The leaves are 2 to 3 inches long, nearly ovate in shape, with large coarse teeth on the upper two-thirds of the margins, dull green above, and covered on the under side with a white down.

It will grow in almost any well-drained soil, but should never be allowed to become dry during the summer, or no flowers will be produced. It can be increased by cuttings or divisions of the root; if by cuttings, care should be taken to guard against damping-off, which they are very liable to do if kept too moist.—C.

THE YOUNG GARDENERS' DOMAIN.

EUPATORIUMS.

THE winter-flowering greenhouse varieties of Eupatoriums are indispensable in an establishment where cut flowers and plants in pots are in considerable demand. They are also most useful in the conservatory. The loose corymbs of the small white-flowered kinds are valuable for mixing in bouquets and associating with other flowers in glasses, as they afford a light and graceful appearance.

E. Weinmannianum, which is sweet-scented, is now in flower, and will be followed later by *E. riparium*. Both these will root readily from cuttings inserted in the spring and placed in a warm propagating frame. Indeed, *E. riparium* will root under almost any circumstances, small shoots broken off and merely pushed into the soil with the finger rooting quickly. It also seeds freely, and numbers of seedlings can often be obtained by searching under the stages or on the beds where the plants have stood to flower. When the cuttings are rooted they should be gradually hardened and eventually placed in cold frames for the summer, potting them as they require it. Occasional feedings with weak liquid manure, preferably soot water, during the growing season will prove beneficial.

We find it an excellent plan with old stock of *E. riparium* to plant in the open border during the summer, dividing the large roots if necessary. These are lifted with a good ball, as soon as frost threatens, are potted, and placed in a cool structure where heat is obtainable if necessary, shading from bright sunshine, and syringing frequently to prevent flagging till established. *E. Weinmannianum* can be grown into a large bush 4 or 5 feet high if kept for several years and lightly pruned into shape after each flowering season.

The red varieties *atrorubens* and *ianthinum* are said to require a slightly warmer temperature than those mentioned during the flowering period. There are several others, some of which are hardy summer-flowering shrubs. We have found thrips and red spider somewhat troublesome during the recent hot dry season, but these pests can be kept in check by the regular use of the syringe, and by slight fumigations after the plants are housed.—S. X.



HARDY FRUIT GARDEN.

Renovating Standard Apples and Pears.—When these trees grow and fruit indifferently, it may be owing to causes which can be removed. The lack of moisture and proper food in the soil may be the cause, or the trees are crowded with growths. The condition of the trees is indicated by the texture of the leaves, the length and strength of the current year's wood, and the quality of the fruit. When the leaves are thin, small, and deficient in colour, the wood made during the season short in length and weak, and the quality and size of fruit distinctly below the average, there is ample scope for improvement in managing the trees.

Remedying Overcrowding.—The general growth of the trees may be satisfactory, but if the branches are allowed to remain too closely together the buds cannot be properly built up or the wood ripened. These are important points in the production of fruit. The present is a suitable time to rectify the common evil of overcrowding, especially when it can be carried out before the leaves fall, as their presence is a good guide in forming a correct judgment as to the disposal of the branches. Those which cross one another, interlace and grow inwards, must be first discarded, dealing with the centres of the trees to commence with. As far as practicable, all branches removed in the process of thinning should be cut out close to the main stems or to the stems from which they originate. The chief object in reducing the amount of wood in crowded trees is to admit light and air freely. When the trees are in full foliage abundance of light is necessary to induce a stout and leathery tissue of each leaf, and this cannot be secured if sunlight does not reach them in a direct manner. Under the best conditions important work is done by the leaves in elaborating the food material received into the plant and storing it in fruit and wood buds.

Weakly Trees.—Trees that may not be unduly crowded with growth may yet be unsatisfactory, owing to the weakly character of the growth and buds. Lack of moisture for the roots may be the cause of this, as well as the impoverishment of the surface soil through long-continued withdrawal of food elements in the soil, and neglecting to replace it with suitable manurial applications. Moisture in the soil is the chief factor, and this should be supplied to the trees unstintingly, not only as far as the few feet radius from the stem, popularly supposed to contain the bulk of the roots, but as far as the branches extend, where the principal feeding roots may be found. The moisture applied to old trees like these need not be confined to simple clear water, but any liquid manure or sewage may be given liberally and without dilution. Dressing of wood ashes, manures, and lime will act beneficially on such trees, and give them a new lease of life in the course of a few seasons. In the winter the stems and branches should be cleared of moss, lichen, and American blight.

Improving Wall Trees.—Trained trees on walls are frequently too well furnished with branches, and the least necessary ought to be boldly cut back to the main stems. Every other one can be removed in many cases, to the permanent advantage of those remaining. A space of a foot to 15 inches is not too much. The reduction in the length of ungainly spurs and the thinning out of crowded clumps follows. It is a good plan to remove some of the old, inert soil, down to the roots, and give a thorough soaking of water and liquid manure, then fill in with fresh, rich soil, and mulch with short manure.

Opening out Bush Trees.—Crowded Gooseberries and Currants rankly furnished with old worn out branches and a too great profusion of young growths may be effectively opened out now. Nothing but good will result from the thinning. Gooseberries will bear freely on lengths of young wood distributed over the bushes, not allowing these to be crowded, but yet avoiding thinning too severely owing to birds attacking the buds in winter. Similar treatment accorded to Black Currants produces fruitful bushes. The vigorous young wood is the best for bearing, and each season the oldest parts may be cut out. Red and White Currants are best furnished with five to seven main branches, the young wood on these spurred in each winter. The older branches, as they are weakened by over-production may be replaced by young strong shoots from the base, in this manner keeping a bush perpetually vigorous and fruitful.

How to Improve Fruitless Plum Trees.—As a rule Plum trees are best left with little or no pruning, especially standard and half-standard trees in the open, and informally trained bush trees. Of course, like other fruit trees they must be pruned in the early stages to form a proper foundation, but after that desired end is secured no shortening of the branches must be practised. It is rarely that Plum trees become overcrowded with growth, and are prevented bearing in consequence, but should they do so some judicious regulating will be of benefit. They do, however, refuse to flower and bear from an inadequate supply of lime in the soil, this having been used up or washed away from the surface soil. Trees that appear in every way suitable for bearing but do not do so require a dressing of lime and wood ashes, then a thoroughly good soaking with liquid manure, followed by a top-dressing of short decomposed manure. In the course of the winter season two or three effective soakings of liquid manure or sewage may be given, and a few copious waterings applied in summer.

The most fruitful Plum trees are low standards and informally trained bushes with space to extend and the branches originated at suitable distances. After a few years' growth Plum trees may be found too vigorous. They ought then to be lifted and replanted in firm soil. Shorten back any long strong roots, and prune smoothly the ends of any injured in lifting.

FRUIT FORCING.

Cherry House.—The trees have cast their leaves and should be pruned. Cut back to within an inch of the base shoots which were made during the summer and stopped at the fifth joint. This applies to all spur growths, but the extensions and growths for forming branches to furnish the trees should not be shortened, unless they have reached the extremity of the trellis, or when it is necessary to multiply the shoots another season. The house should then be thoroughly cleaned, and the trees washed with a solution of paraffin and soft soap, 2 or 3 oss. to a gallon of water. Then limewash the walls with best fresh lime and a handful of flowers of sulphur in each pailful. Clear away all prunings and other matter. Remove the loose soil or mulching on the border. If the roots are near the surface and fully occupy the soil a light pointing over may be all that can be done prior to top-dressing, with an inch or two thickness of fresh rich loam, but no opportunity should be lost of removing inert soil and changing it for fresh turfy loam of a calcareous nature. The lights being off they need not be replaced until the time for starting or the approach of severe weather. Under fixed roofs attention will need to be given the borders for watering, keeping them evenly moistened through, ventilating the house fully at all times up to starting.

Peaches and Nectarines.—*Earliest House.*—The trees in this structure have been at rest for some time, the roof-lights having been removed when the wood was sufficiently firm and the buds formed, but not over-developed. The house was thoroughly cleaned when the leaves were all down, the trees untied, pruned, dressed with an improved insecticide, re-arranged and tied on the trellis, the border surface dressed, all put into complete order ready for a start at the proper time, and they are now in a promising condition. The roof-lights will not be replaced until early in December. Where the roof-lights have not been removed strenuously avoid allowing the soil to become dry at the roots of the trees, as this is sufficient to cause the buds to fall.

If the trees are weakly and the buds plenteous, a supply of liquid manure will be of great benefit. It is also advisable to remove the surface soil down to the roots, take some of the old from amongst them, and supply fresh loam, not covering the roots near the collar more than 2 or 3 inches, top-dressing with a fertiliser. Borders that have a close moist surface, and are rich in humus through heavy dressings of manure, may be dressed with air-slaked lime, using about a bushel per rod, and mixing it with the soil as deeply as practicable without disturbing the roots to any great extent, and operating on both the inside and outside borders. Complete the pruning and dressing of the trees, cleansing the house, and admitting all the air possible.

Second Early House.—This is the first in some places the trees being started at the new year; they have been leafless nearly a month and should be pruned, after untying, dressed and re-arranged on the trellis. This, with a thorough cleaning of the house, makes an end of many insects. In pruning early forced trees it is not desirable to cut away too much wood, or proceed on any hard-and-fast lines, but confine it to removing any useless parts that have escaped removal at thinning after the fruit was gathered, and shortening any long shoots to a double or triple bud, making sure that one of them is a wood bud. This will mainly be necessary to originate growths at the required place for furnishing the tree, for shoots that are well ripened need not be shortened, and those of 8 to 12 inches length should be left entire, as they usually have a few wood buds at the base and one at the extremity, those between these points being generally blossom buds. It is, however, a mistake to retain much wood, which weakens the trees in flowering, and there is not space to train in the young growths without crowding. Treat the trees in other respects as advised for the earliest forced, also the house and border.

Succession Houses.—The trees in the structures started in February or March will now be leafless or nearly so, and should be subjected to similar treatment to the earlier ones, losing no opportunity of pushing forward the pruning, dressing the trees, and having all needful work done. If the wood is thoroughly ripened the roof-lights may be removed with advantage. Where the roof-lights are not movable do not allow the soil to become dry, and admit air to the fullest extent, securing as complete rest as possible. Any trees growing too luxuriantly or not setting and storing the fruit well, should be root-pruned or lifted.

Late Houses.—The late varieties are over sooner this year than usual, and the trees are shedding their leaves. It will be advisable to remove the roof-lights as soon as the foliage is sufficiently advanced, but where green leaves hang late it is an indication of unripe wood, and the roof-lights must not be removed for some time longer. If this condition prevail generally in the trees they should be lifted carefully and the roots pruned. When this is performed judiciously it will not prejudice next year's crop, but it must be done when most of the leaves are down and the wood firm, keeping the house rather close, the trees syringed, and shaded if the weather be bright. Under ordinary circumstances as to the weather these precautions are not necessary. It is only when the trees are green and the wood unripe that the careful treatment is necessary.

In the case of young trees it will suffice to take out a trench one-third the distance from the stem the trees cover of trellis and down, so as to cut off all roots to the drainage, leaving the trench open for a fortnight,

not allowing the soil in the radius to become so dry as to distress the foliage to a severe degree of flagging, but not giving any water so long as the leaves maintain their persistence, and then the trench may be filled in, making the soil firm. This will check the tendency to exuberance and late growth, ripen the wood and plump the buds. Luxuriant trees which may not safely be bodily lifted on account of their long, strong, and few roots, may be treated in a similar manner, and a year after they can be lifted.



MAKING HIVES RAIN-PROOF. R

WHAT is termed the busy season in the apiary is now over; stocks have been well supplied with stores, extra coverings have been placed over the frames, and the bees are in good condition for withstanding the many changes that will doubtless take place in the weather before the fruit trees again burst into blossom next spring.

There are, however, many things that may be done in the apiary during the dull days of winter. One of the most important is the examination of all the hives in use; whether they be made of wood or are straw skeps, all should have attention to see that they are thoroughly rain-proof. In making an examination of a hive which may be crowded with bees at this date, it is not advisable or necessary to disturb them, unless the hive is in a bad state of decay.

In the majority of cases it will be found the bees were placed in sound strong frame hives. These after being exposed to several months of bright sunshine, will in many instances be found to be not quite rain-proof. This may be at once detected if after a very heavy shower of rain the roof is removed and the coverings on the top of the frames are wet. A remedy should be found forthwith. We recommend the painting of all hives in the autumn, and as we are now having a spell of fine weather no time should be lost in doing all that is necessary. If every hive has one coat of paint every autumn, it will usually keep them in good condition. All cracks in the wood should be well filled with putty and afterwards painted; this in ordinary cases will be quite sufficient if paint made from the best white lead is used.

At this season very few bees are on the wing, so it is possible to paint the hives as they stand in the apiary without disturbing the bees. The floor boards should not be done, and if the bees are at all troublesome the front part of the hive may be left until late in the afternoon, when all the bees will have returned to the hive. The painting may then be finished, and it will be found to be perfectly dry the following morning.

If the coverings and interior of the hive are perfectly dry, it will still be an advantage to give it a coat of paint to prevent decay. Bees have not such an aversion to paint as some people imagine, as they may often be found on neighbouring buildings alighting on the newly painted wood, doubtless attracted by the smell, which does not injure them.

REPAIRING HIVES.

However careful a bee-keeper may be, after being at the business for several years he will find his hives get out of repair, unless they have timely attention as advised. They will then, as might be expected, last longer than if left to chance. Still, with every care and attention, we have found some of our best made hives, where the roofs are made of wood, have not been rain-proof. It is surprising the large amount of moisture a knot in the wood will admit; a perfect cure for this is a piece of calico cut larger than the damaged wood. This should be painted on both sides, and then strained over the place intended to be repaired. It must then receive another coat of paint, which, when dry, nothing will remove, and water will not penetrate through it. Nails must not be used, as they will in time work loose, and the moisture will be again admitted to the hive.

If the sides of a hive are at all decayed, it is much better to smash the hive to pieces and make a new one, which any amateur may do if he has a well made hive to work from. If it is only the roof that requires repairing it may easily be done by covering it with thin zinc. It will then be thoroughly waterproof. It is not advisable to drive any nails through the top of the roof. The zinc should be nailed round the edges of the roof, allowing it to lap a couple of inches underneath. Roofs treated in this manner will keep in good condition for many years.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. H. Hudson, 199, High Road, Kilburn.—*Bulbs.*

J. Jeffries & Sons, Cirencester.—*Roses and Trees.*

W. Paul & Son, Waltham Cross.—*Wholesale Rose and Tree List.*

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject, from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Stephanotis floribunda (C. W. H.).—It is bad practice to keep this plant too warm, for its growths are more sturdy and it flowers more profusely when grown under cooler and more airy conditions than the plant is generally subjected to. Cool, airy treatment after flowering is of the utmost importance to thoroughly harden and ripen the wood before the season for complete rest arrives. The plants that flowered early in the year have had no artificial heat for the last six weeks, and none will be given as long as the temperature can be kept from falling below 50° at night. Abundance of air should be admitted during the day, and a little ventilation allowed all night when the weather is mild. The atmospheric conditions of the house should also be much drier now than is generally the case.

Slitting the Bark on Stem of Seedling Apple Tree (Warwick).—We presume the object of the proposed operation is to induce the seedling Apple tree of some five to ten years old to come into bearing as soon as possible. In that case it would not be well to slit the bark down the stem, as the vertical incision would exercise the contrary tendency, facilitating rather than impeding the ascent of the crude sap and the passage downward to the roots of the formative substance or cambium. Thus the stem would be thickened by the formation of new bark and its concomitant layer of young wood in covering the wounds, and if anything increase the vigour. Ringing is perhaps what you mean—the taking of a ring of bark quite down to the wood from the stem and all round, this being from a quarter to half an inch wide, and done as soon as the leaves fall, or from that time to early spring before the sap rises. This impedes the flow of sap somewhat, and retards the downward tendency of the elaborated matter to such extent as induces fertility. This is due to the concentration of the elaborated matter on the parts above the ringing, consequently restricted growth, blossom, bud formation, and the fruit following being finer. Why not ring some of the branches or even all of them, leaving the stem intact for grafting on if the variety prove worthless or undesirable? Another plan, and a good one, is to prune the roots.

Transparent Patches in Apples (New Subscriber).—No, this is not as you surmise, extremely rare—in fact we have frequently seen it. The wax-like patches consist of pulp of greater density than the other parts of the fruit, the cell walls having been ruptured, probably on account of their thinness, and the extravasated juices are retained, giving the blotches a firm transparent appearance. There are, of course, no air spaces in this part of the fruit, but there is a certain amount of air, as air bubbles form on the microscopic section, and a few perfect cells exist amid the gelatinous-like flesh forming the blotches. In other parts of the fruit the cells are unusually large, and the flesh is much softer and lighter. The substance proceeds directly from the internal parts of the fruit, and is intimately connected with the carpel or core. Its extravasation is most pronounced in hot soils and seasons, and is restricted to certain races, such as the Muscovy or White Astrachan (Transparent Apple), which is remarkable for its gelatinous-like blotches in the flesh, and sometimes the whole fruit is transparent, with a texture of flesh resembling a stone fruit, and very crisp, juicy, and richly flavoured. The transparent blotches sometimes occur in Gravenstein and in some of the Calvilles. It is not a disease, but a peculiarity of type, transmissible from the parent and inherent in the progeny. The threads pervading the gelatinous-like substance are not fungal, but belong to the cells which have had their juices extravasated.

Potatoes to Follow Parsnips (W. H.).—It is not advisable to have Potatoes after Parsnips, for though the former belong to the natural order Solanaceae, and Parsnips to that of Umbelliferae, the tubers of the first and the fleshy roots of the latter abstract very largely the stores of potash, lime, magnesia, iron, and phosphoric acid from the soil. In fact, no root crop should follow another, but be succeeded by gramineous or leguminous, hence the crop to follow Parsnips in gardens are Peas, Broad or Runner Beans; in fields, cereals with legumes after, or the two permanently.

Aneroid Barometer (H. H.).—From the particulars you supply, Mr. Edward Mawley, ex-President of the Royal Meteorological Society, says your aneroid is evidently reading at the present time about a quarter of an inch (0.25 inch) too high. In order to find out whether it records correctly or not it should be set right, and its readings afterwards compared daily for several weeks with those of a good mercurial barometer. An aneroid cannot, however, be depended upon for long together to give strictly accurate readings, and therefore requires to be occasionally compared with a mercurial barometer, and set right. For horticultural purposes—that is to say, for tracing weather changes—the hand of an aneroid barometer should seldom require resetting, as it is not so much the actual pressure of the atmosphere at any one time that is required, as the extent of the changes in atmospheric pressure from day to day or from hour to hour, as the case may be.

Dressing for Rank Land (J. A. C. C.).—Under ordinary circumstances the best dressing for rank land is basic cinder phosphate, 10 to 15 cwt. per acre, and kainit 2½ to 5 cwt. per acre, applied in the autumn or early in spring—not later than February, or as soon as winter frost has left the ground. Salt, agricultural or rock (ground), is useful, as well known, in sweetening rough old pastures, in destroying insect life, checking disease, and helping to retain moisture in dry weather, applying 5 to 10 cwt. per acre in the autumn. Salt also acts on soils containing lime, by exchanging acids and forming muriate of lime, which, in turn, combines readily in the soil with the ammonia, some of which might otherwise have been volatilised as carbonate. But we do not consider your land will need any such dressing, for the ground which has grown rank from having rubbish heaps burnt on it for some years will contain the mineral ingredients of the several plants or combustible substances comprised in the rubbish, and thus be rich in the elements potash, soda, lime, magnesia and iron, with the acids phosphoric, sulphuric and silicic, with some chlorine. That there is no deficiency of nitrogenous matter is evidenced by the rank growth, probably of weeds such as Nettles, Dock, Dandelions and Plantains, with the coarse grasses. We advise, therefore, that the ground be thoroughly cleaned, all taprooted and creeping rooted vegetation carefully extracted and removed or burnt, spreading the ashes evenly all over the land in the latter case, and in the former forming into a heap with one-sixth of fresh gas lime, allowing to lie over the winter, and in the summer time turning at least twice outside to inside and top to bottom, when in autumn the material may be applied to the land as a top-dressing. The ground having thus been thoroughly cleaned and levelled, and the surface in good tilth, grass seeds of which leguminous plants such as the Clovers, will, or should, form a due proportion in order to bring the land back to pasture grass of a permanent nature, may be sown early in April during mild weather, the land being in good working order or inclined to dryness; but with an early prospect of rain, raking or harrowing in very lightly and rolling well down. It is not advisable to sow grass seeds later than September. If desired you may take a crop of Barley or Wheat, the latter being sown in autumn as soon as the land can be got ready, which is hardly possible for this season, or the sowing may be deferred until early spring, and the grass mixture in either case, as that of Barley, sown early in April.

"Rust" on a Vine Leaf (B. T. S.).—The rust is caused by a small insect, too well known to gardeners as "thrips," that feeds upon the juices of plants, the mouth being provided with parts suited for piercing delicate tissues, and for sucking. There are several species; that on the Vine leaf is one of the most harmful, and injures plants in both greenhouses and stoves, and by name is *Heliethrips haemorrhoidalis*. It is dark brown when mature, with the tip of the body red brown, and the eyes and limbs pale yellow. The insect is only about 1-20-inch long, but what is lacking in size is made up in number and malignity of infection. The creature is soft and almost white in the earlier stages of development, and then most readily destroyed by smoking the house with tobacco paper or other fumigating preparations, also by vaporisation with nicotine and the fumers prepared for the purpose of fumigation. The house should be fumigated on more than one occasion, as there are some eggs as well as feeding forms, hence the house should be smoked or vaporised two or three times, at intervals of about four days, so as to make a complete riddance, and when the leaves are down and the Vines pruned, the house should be thoroughly cleaned and the Vines dressed with an insecticide. Watch the leaves closely in the spring, and on the first faint signs of attack sponge them with tobacco water and soft soap. The Grapes from a Vine—one of several that in two vineries three years ago were carrying miserable crops of shanked Grapes, and have been treated in accordance with advice given in the *Journal of Horticulture*—would have been larger in berry and better in the skin with a lighter crop. If the crop mentioned in your letter—namely, forty-eight bunches, averaging from a good serviceable size to 2½ lbs. in weight—were produced by a single rod, the Grapes are wonderfully good, and in flavour they are quite first-rate. We are glad you have turned the information to such good account, and trust it will be equally, if not more, helpful to you in the future. The Pear was a fine specimen of Pitmaston Duchess.

Grubs in Pots (*Mancunian*).—The grubs are the larvae of a destructive weevil (*Otiobrychus*), a brownish beetle-like creature which feeds chiefly at night on various kinds of plants, and may be found with the aid of a lantern and destroyed. The grubs are difficult to destroy—a decoction of hellebore made by dissolving 2 ozs. of the powder in a gallon of hot water and applied at a temperature of over 100° might be tried.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (*F. L.*)—1, Cox's Orange Pippin; 2, Golden Noble; 3, Alfriston; 4, Beurré Hardy; 5, Quite rotten; 6, Lord Derby. The Apples were all fine specimens. (*A. C.*)—Court Pendu Plat. (*L. R.*)—1, Gaseoyne's Scarlet Seedling; 2, Warner's King; 3, Golden Winter Pearmain; 4, Roundway Magnum Bonum; 5, Wadhurst Pippin; 6, Waltham Abbey Seedling. (*A. W.*)—Comte de Lamy. (*J. J. D.*)—1, Emperor Alexander; 2, not recognised; 3, Tibbett's Incomparable; 4, Sandringham; 5, Warner's King (highly coloured); 6, Beauty of Kent. (*X. Y. Z.*)—1, Rambour Franc; 2, possibly Pickering's Seedling; 3, Herefordshire Beefing. (*G. R.*)—The Apples are not recognised varieties in general cultivation; the only certain method of increasing them is by grafting.

Names of Plants (*C. T.*).—Michaelmas Daisies are extremely difficult to name, except by comparison. 1, Flower is quite closed; 2, possibly *Aster diffusus orientalis*; 3, *Chrysanthemum Parthenium flore-pleno*; 4, *Hieracium aurantiacum*. (*H. Y.*)—1, *Cratægus coccinea*; 2, *Cornus mas variegata*; 3, *Aster ericoides*; 4, *A. pulchellus*; 5, *A. novæ-angliæ*; 6, *Clematis flammula*.

COVENT GARDEN MARKET.—OCTOBER 25TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3 0	5 0	Nectarines, per doz.	8 0	6 0
Cobnuts per 100 lb.	70 0	0 0	Peaches, per doz.	8 0	6 0
Figs, green, per doz.	1 0	8 0	Pears, Californian, case...	6 0	9 0
" French, per basket...	1 6	8 0	Pines, St. Michael's, each	1 0	6 0
Grapes, black ...	0 6	8 0	Plums, Prune, per sieve...	6 6	0 0
Lemons, case ...	14 0	20 0	" Californian, case...	4 0	8 0
Melons ... each	0 6	1 6	Walnuts, fresh, bushel	20 0	0 0
" Book ...	1 9	2 6			

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	2 0	8 0	Lettuce, doz.	1 8	2 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb.	0 2½	0 6
Beans, Scarlet, sieve	5 0	6 0	Mustard and Cress, punnet	0 2	0 0
Beet, Red, doz.	0 6	0 0	Onions, bag, about 1 cwt.	4 0	4 6
Cabbages, per tally	7 0	0 0	Parsley, doz. bunches	2 0	4 0
Carrots, per doz.	2 0	8 0	Potatoes, cwt.	2 0	5 6
Cauliflowers, doz.	2 0	8 0	Shallots, lb.	0 8	0 0
Celery, per bundle	1 0	1 3	Spinach, per bushel...	2 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs.	2 0	5 0
Endive, doz.	1 6	2 0	Turnips, bunch...	0 8	0 4
Herbs, bunch	0 2	0 0	Vegetable Marrows, doz.	1 0	1 6
Leeks, bunch	0 8	0 0			

Trade improving.

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums ...	8 0	10 0	Lilium Harrisi, 12 blooms	6 0	8 0
Asparagus, Fern, bunch...	2 0	2 6	" lancifolium album	8 6	4 6
Carnations, 12 blooms	2 6	3 6	" rubrum	8 6	4 6
Cattleyas, per doz.	12 0	18 0	" longiflorum, 12 blooms	6 0	8 0
Chrysanthemums, white			Maidenhair Fern, doz.		
doz. blooms	6 0	9 0	bunches	6 0	8 0
" yellow doz. blooms	5 0	8 0	Marguerites, doz. bunches	3 0	4 0
" bunches var.	0 6	1 6	Mignonettes, doz. bunches	4 0	6 0
Eucharis, doz.	6 0	8 0	Odontoglossums	5 0	7 6
Gardenias, doz.	4 0	6 0	Pelargoniums, doz. bunches	8 0	12 0
Geranium, scarlet, doz.			Roses (indoor), doz.	6 0	8 0
bunches	6 0	12 0	" Red, doz.	6 0	8 0
Lily of the Valley, 12			" Tea, white, doz.	3 6	6 0
sprays	18 0	24 0	" Yellow, doz. (Perles)	4 6	6 6
			Smilax, bunch	8 0	4 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	8 0	Ficus elastica, each	1 6	7 6
Aspidistra, doz.	18 0	8 0	Foliage plants, var., each	1 0	5 0
Aspidistra, specimen	15 0	20 0	Lilium Harrisi, doz.	18 0	24 0
Chrysanthemums, per doz.	6 0	8 0	Lilium lancifolium album	80 0	40 0
Crotons, doz.	18 0	80 0	" rubrum	80 0	40 0
Dracena, var., doz.	12 0	80 0	Lycopodium, doz.	3 0	6 0
Dracena viridis, doz.	9 0	18 0	Marguerite Daisy, doz.	10 0	18 0
Erica various, doz.	80 0	60 0	Myrtles, doz.	6 0	9 0
Euonymus, var., doz.	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz.	4 0	18 0	" specimens	21 0	68 0
Ferns, var., doz.	4 0	18 0	Physalis, per pot	2 0	4 0
" small, 100	4 0	8 0			



AUTUMN FEED FOR COWS.

WHATEVER branch of agriculture may have scored a success this summer, it is absolutely certain that the poor cow-keepers have had a rough time of it. Milk selling is a large and growing trade, but it has taxed our ingenuity and tried our faith to find out where the profit comes in. For the producer prices rule low, and he has so many chances against him. Abortion, though not quite so prevalent as some of the papers would have us believe, is still a serious evil, and one which occasions great loss and inconvenience to those who look to their cows for the rent, and possibly part of the labour bill. Then there is another loss, arising from milk fever. This may almost, if not entirely, be classed among the preventible diseases, yet cases will occur more frequently than desirable. With good bullock beef cheap, it is easy to conceive there is not a great demand for cow beef of an uncertain age. The only dear stock of late has been in calves, and they have been dear enough.

In buying there is always a risk of introducing (if it is not already present) that dread disease tuberculosis, so difficult of detection, and so subtle and far reaching in its effects. The cow-keeper is subjected to many tiresome but necessary regulations—regulations often difficult to carry out, and which, of course, mean outlay of hardly spared cash. It is quite right and proper that all precautions should be taken that the public get wholesome milk from healthy cows in healthy surroundings, but for all that the restrictions press heavily on the man of small means.

The spring of 1899 was cold and backward; late frosts affected and checked vegetation, and even when cows were turned out there was not a very gaudy prospect before them.

Taking England throughout, there is a good deal of very moderate grass—not rich in milk-producing qualities under the best circumstances. When this grass does not get a good start in the spring, and is also handicapped by excessive drought during the summer months, it does not require a genius to see the results. A cow is a large animal, requiring much bulk of food, and some of that food at any rate must be of good quality. Quantity and quality she needs, and this summer she has either gone without, or has eaten gold out of her master's pocket.

The contracts for milk are made before there can be a true estimate of the supply of summer feed, and the cow-keeper has to stand all the chances of unpropitious seasons without any corresponding rise in price. In some cases where the owners were exceptionally fortunate, there was a good supply of old hay. Of course this had to be used instead of standing over to help out the deficiencies of this last poorer hay crop. There were also men who owned stretches of good fog or aftermath; these men were fortunate in the extreme.

Now we have reached a time when all grass is fast losing any good qualities it ever possessed. The grass of May, June, and July is or ought to be ideal food; the grass of the autumn is very inferior stuff. We have often spoken before about the sensibility of cows to external influence with regard to milk secretion. A cow in full milk

is like a most sensitive barometer. Let a cold night or two come on, down falls the milk record. Let her be milked by rough or incompetent people, result the same. Let her be unsuitably hurried or worried—the milk pail tells a tale. Feed her with strong flavoured food, you get the benefit in your cream jug and puddings. Feed her well and carefully with a due regard to warmth and comfort, and you will be fully repaid by the milk yield. Bear in mind one thing, condition once lost is never regained. The ill effects of fast days are not done away by a succession of feast days.

All live stock are affected by autumn weather; the chilly nights and mornings, the stormy winds and heavy autumn rains, all have their effect, and it is a near sighted man who keeps his stock out too late in the autumn. By all means give them a run if there is a good bite of grass left, but let the world get aired first, and bring them up before the damps begin to fall. Remember, too, you cannot begin too early with a bit of hand food—the grass must be an extra, not the standing dish.

Two duties are expected of a cow—she must keep up her milking habit, and at the same time she is nourishing an unborn calf. She is liberal to you, be you equally so to her. If you have a patch of Cabbage—and no farmer should be without—remember her tastes. Tares, too, make an excellent substitute for good succulent grass. She requires moisture, and she enjoys it better taken in this form. It is early to speak of Carrots, but in some neighbourhoods they are both plentiful and cheap.

There are all sorts of good valuable dried foods in the market. Bran, decorticated cotton cake, crushed Oats, dried grains. As much as 3 or 4 lbs. of cotton cake may be given with advantage, but it is well to make the change gradually. A sudden and large supply of dried food will possibly put the cow out of gear, and the milk will not be up in quality to A1. Hay is a grand food, but hay alone does not do. There is hay and hay, and some is really only fit just to keep stock going—in fact, to fill the stomach.

Roots are valuable in certain proportions, and we thoroughly believe in Mangolds, but they must be ripe before being used. They require to mellow a certain time in pie before being eaten. Swedes also contain valuable properties, but there is a prejudice against them, as they are said to taint the butter. It is quite possible to use them without running this risk. If cows are fed immediately after milking with Swedes the effect will have gone off before the next milking time. The green tops are the most likely to do the harm; they should be carefully removed.

All sorts of chaff and cut meat are useful, except Barley. It is a curious fact that Barley straw will most effectually dry any cow. This should be borne in mind by any beginner in dairy work. If there is a good Clover stack the cows should have their share, but a cowman who knows his business will be for ever on the look out for anything appetising for his charges.

A cottager's cow is invariably a good milker. So much depends on her that she is humoured and petted like a child. She gets many a dainty bit that the farmer's cows never see; there are too many of them for individual attention—and it is individual attention that pays.

WORK ON THE HOME FARM.

We are enjoying a true St. Luke's summer, sunny days and starry nights with just a suspicion of frost, but nothing to make the root grower anxious. Wheat sowing proceeds swimmingly, and the recent rise of 3s. per quarter may tempt farmers to sow Wheat where they had meant to grow Oats, thus increasing an already bloated acreage.

Potatoes have ripened off very quickly, and even Up-to-Dates now present little difficulty. Growers are busy lifting, and too busy to sell or complete delivery of those already sold; as a result we have sharper markets, and would-be purchasers are wandering round the villages trying to appear interested in natural history or flowers or anything rather than the vegetable supply.

With Turnips making 35s. per ton to the cowkeepers in the towns, there must be a good prospect for even the commonest Potatoes. Grinding Barley too is very dear, and we do not envy the lot of those who are large holders of store pigs but who have to purchase all their food.

During the past week we have had opportunities for taking stock of the root crop of two counties. Mangold is fairly good, in some cases very good. Common Turnips are a good plant but are very small; they have all finished growing except the late sown ones, which look healthy and like making an average crop.

Swedes are dreadful, no other adjective describes them. Large patches of them are practically dead, the leaves having fallen and only a stump remaining; even where the plants look fairly healthy few of the roots would scale 2 lbs., and some have made little effort to bulb at all. We believe Swedes were in a similar plight thirty years ago, but were of larger size.

Spring sown Cabbages are not very satisfactory, they are inclined more to run to seed than to heart. Artificial foods have risen in price. Dried grains rose 10s. per ton at a bound. Cakes have risen 5s. to 12s. 6d. per ton. In fact the mixed land farmer already finds the increased return from his Wheat crop spoken for before he has got it realised.

Little picking can be found by the hens in the stockyards, and if hens are expected to keep on laying they must be well fed now. With good Barley at 28s. and seconds at 24s. we should recommend the best as being the cheapest. Now that fowls are more dependant on grain food look well after the supply of grit. Animals could not feed well with teeth, and grit acts in the place of teeth for the fowl.

THE WOMEN'S AGRICULTURAL ASSOCIATION.—The Countess of Warwick presided last week at Stafford House over the first annual meeting of the Women's Agricultural Association. There was a large attendance. Lady Warwick said their year's work had been quite as satisfactory as could be expected. The Committee is in correspondence with ladies in America, where it is hoped a similar organisation may be formed. South Africa is already represented in the person of Mr. Cecil Rhodes, and South Australia and New Zealand are also likely soon to show their practical support. Her ladyship strongly urged those who intended to take up the farming industry to work hard and persevere. Miss Bradley, the Secretary, read the report, which was adopted.

BIOLOGICAL SCIENCE IN ITS RELATION TO AGRICULTURE.—At the above meeting the following resolution was carried unanimously:—"That it is desirable and important that duly qualified women should have the advantages of full membership in scientific and other learned societies—e.g., the Royal, the Linnean, and the Royal Microscopical." An excellent paper by Mrs. Farquharson, F.R.M.S., of Haughton, in support of the resolution, was read at the meeting. "I do not think," said the author, "that I put the matter too forcibly when I state that in my opinion the science of biology is to agriculture the key-note of all its hoped-for attainments. The electrical wheel cannot be driven without dynamic power, and, therefore, how can we attempt to fathom the depth of the science of life without the fundamental knowledge of biology, comprising entomology and ornithology. For practical purposes which particular subject to learn is in my experience of the utmost importance. Many a woman has to spend a lengthy time in wading through volumes of matter, when a single hour's attendance at one of the learned societies' meetings might clearly demonstrate to her the information which she craved. At these meetings the latest ideas, the opinions, and the experience of specialists are freely expressed, and prove over and over again of the greatest use in the advancement of biological science. Not only would it be most beneficial in practical agriculture and horticulture, but it would no doubt insure success in the present state of so keen competition. Admission to these societies would enable a woman with her untrained mind, as to state the fact frankly, is so unfortunately often the case—to be on the same footing as members of the other sex, both possessing in common, 'genius, the supreme capacity for taking pains.'"

FEEDING PIGS ON ACORNS.—In this country we know very little of the practice which is so largely followed in some parts of England at this season of the year, when pigs are turned by the score into woods for the consumption of acorns and beech mast. It is claimed for the practice, that in addition to the food costing next to nothing, it is capable of producing bacon of the highest class. The food is certainly much more "natural" than the prepared messes upon which pigs are usually fed, and the bacon resulting from it is said to possess a flavour not often found in pork produced under ordinary conditions. Curiously enough, though pigs when at large feed upon these acorns with impunity, they give rise to digestive disorders of various kinds when fed in any quantity to animals kept in confinement. The reason why pigs eat them with impunity when running loose is supposed to be because the animals then only eat them in small quantities at a time and in conjunction with other foods, weeds of various kinds, which have the effect of reducing the irritant influence of the acorns.—("Irish Farmer's Gazette.")

HAND-WEEDING VERSUS HOING.—Although stirring the surface while weeding with the hoe is so beneficial to the soil there are some weeds of so rapid a growth and which seed so persistently that hand-weeding is the only means by which they can be completely extirpated. *Capsella bursa-pastoris* (common Shepherd's Purse or "Pickpocket") is a notable example where the hoe, unless plied repeatedly, propagates the weed, instead of destroying it, by breaking the small seed vessels, which are produced almost as soon as the first leaves appear. Hand-weeding for this pest certainly pays even in fields, because the plough or hoe breaks the capsules and re-sows the seed for a fresh crop. On examining one of the capsules, which are heart-shaped with two lobes, there will be found at least twenty seeds—very small growths possess one hundred capsules. On many plants will be found several hundred capsules, so that from two thousand up to ten thousand seeds are scattered unless the weed is pulled and removed to be burned at once. Those who work the soil ought to acquaint themselves with the habits of weeds. Observations would prove that in the garden, on the lawn, and in pasture, as well as on arable land, hand-weeding at the proper moment pays.—E. O. T. (in "Rural World.")



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Journal of Horticulture.

THURSDAY, NOVEMBER 2, 1899.

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EDUCATION IN RURAL DISTRICTS.

THE term agriculture, as generally used by the Education Department, and specially so in the resolutions recently proposed, as found on page 357, really includes horticulture, and commonly means it. The confounding of farming with gardening, on the ground that the greater is assumed to include the lesser, is an unfortunate mistake, and it would be much better did the Education Department and all educational authorities learn to call a spade a spade, by which is meant that agriculture should be called farming and horticulture gardening.

It is almost impossible to identify the teaching of farming practically in connection with elementary schools, because the surroundings and appliances of such schools will not admit of it; but gardening can be taught, and whether the children instructed in its operations be in the end gardeners, farm labourers, artisans, or mechanics, the knowledge they have received in gardening will prove most helpful to them through life.

It would come as a surprise to many that a conference of practical men and prominent educationists, assembled to deal with a matter of such immense importance as the education of the young in subjects calculated to render them efficient land workers, did not at the outset insist that all elementary education should be placed under the direct control of duly appointed local authorities, who, partly under the Education Department, and of that of the County Technical Education authority, should thus be able to make elementary education in each district just such as is needed by the requirements of vocations or trades in each locality.

The chaotic condition into which our elementary education has fallen is due to its having been so long the battleground of sects—a grave misfortune, and the results of which are seen in the undoubted fact that nine-tenths of our children leave school without having the least knowledge of a practical kind how to labour to secure a livelihood. Whilst the average condition of literary or common education is low enough, that of really working education is far worse.

No. 2066.—VOL. CL., OLD SERIES.

One of the great evils of our elementary educational system is the method by which a great portion of the cost is raised, either by rates or by voluntary contributions. Did the Government but undertake the entire cost of education, the nation would clamour for greatly advanced and more practical teaching, but so long as the work has to depend on the unsatisfactory sources named, the cost will always be grudged, and education retarded. Whatever may have been the nature of the speeches or discussion at the conference referred to, nothing is heard of what is being done in a comparatively limited way in some districts of Surrey, Kent, and Stafford, for instance, to train children in a knowledge of gardening under County Technical Education Committees. What is thus done is thoroughly to the point, and so much is done in this way as well can be done anywhere on a mere rod of ground for a garden.

But efforts in this direction are greatly hampered by the probably not real, yet apparent antagonism that exists between the Education Department and Technical Education Committees, as whilst the latter bodies seem not only willing but even anxious to extend the operation of these school gardens to all lads old enough to work them, the Department shuts the door on all those attending school, yet these are the very lads whom it is so desirable to have working them in the elementary stage, whilst lads that have left school but still remain in the locality may be taken on to more advanced operations. But as these lads may not work a school garden until perhaps fourteen years of age, they can only reach the elementary stage, as in two years' time they are too old for farther instruction. This is but one illustration of the difficulty that now surrounds practical progress in a greatly desired direction.

Something may of course be done in the direction of furnishing instructors in gardening for boys by the various training colleges, but these places again are practically private institutions, and are in no way controlled by the State or by public authority. Far better is it to look for instructors for the children from the ranks of practical gardeners, of whom there are so many qualified to make sound teachers. One such could take a district of several schools, another give the elder boys an hour's teaching at least twice a week. Of course there should be a good garden available in each case, including fruit, vegetables, and flowers, and such other features as enter generally into practical horticulture.—INSPECTOR.

[We give prominence to the foregoing communication because of the great importance of the subject, and not of necessity because we concur in the whole of the opinions expressed. From the practical character of the teaching advocated, few persons who comprehend the requirements of rural districts and the equipment of the workers of the future will presumably dissent. The Elementary Education Act, that was passed some years ago amidst the clash of contending "parties," has by no means proved an unmixed blessing, either to the labourers or employers of labour in rural districts. The smallest wage-earning class in the kingdom were, under the cast-iron law of compulsory school attendance, deprived of the aid, and much-needed aid, of sundry shillings that used to be earned by strong lads at different periods of the year, and no doubt many of these ceased school attendance all too soon. But from one extreme, the law went to the other. From earning a little, but this little of great use to the parents, who were struggling against adversity in strenuous endeavours to make both ends meet in thousands of humble homes, they were entirely debarred under the rigid rule of scholastic uniformity. The aggregate loss thus entailed was enormous to the rank and file of the land, who were least able to bear it, while entailing loss on others, to whom it did not press with such immediate force; but its effect was cumulative, and is felt now, and not borne with the greatest equanimity by the wage-paying section of the agricultural community.

It may be urged by educationists that this is taking a low materialistic view of a great intellectual question. It is a natural and necessary view all the same, and even a venture may be made in suggesting that materialism is not entirely ignored as an objective by numbers of excellent and accomplished persons, who are seeking to

advance, by precept and practice, what is known as "higher education." While honestly desiring to do good to others, they are at the same time, consciously or unconsciously, acting in accordance with the inexorable law of self-preservation. They wish, and laudably so, to improve their own position in life by their own acquirements; and if they fail in this it is either by lack of favourable opportunities or their particular education has not been conducted in the right direction.

This brings us to the root of the subject in question. If education is not of a kind to be the most helpful to those to whom it is imparted, in accordance with the vocation to which the majority are likely to engage, it fails in its object. This has been exactly the case in thousands of village schools, and no persons have been more deeply convinced of this than thoughtful parents of children sent to those schools. This is why the schools have not been popular. The sacrifice of material help that might be from time to time afforded by the earnings of strong lads would have been much more cheerfully borne if they had been gaining knowledge on subjects closely identified with country pursuits. For the purpose of winning marks and obtaining grants, the minds of youths have been crammed with information on subjects of no practical use to them.

Obviously certain subjects must be taught in common in city and in village schools up to a certain point, but beyond this the teaching to be the most useful must be differentiated. An uniform curriculum throughout urban and rural schools is an absurdity and entirely disadvantageous to village populations. Lads who have attended elementary schools in agricultural districts for years, have been taught no more about subjects and operations connected with the land than have the keen-witted urchins of the London or Liverpool slums. If lads in rural villages acquired exact knowledge on the nature, composition, and improvement of various soils; on plant life and growth; on weeds and their wastefulness; on food crops of various kinds, and their usefulness, with methods of production; on flowers, insects, and other cognate matters, their interest would be aroused, inquiry incited, and a desire created to put to practical test the merits of such teaching, and for this opportunities should be afforded.

It is true, elementary school gardens are formed in a few districts, and grants given for "attendances," but in some of these gardens the work is the merest peddling; the teachers do not even know how to hold, much less how to use, the tools, while school inspectors cannot, in the very nature of things, appraise the value of the work; indeed, the majority of them know no more about it than did the three historic tailors of Tooley Street. But there are other of these gardens in which the boys are taught by practical men, and in these the work, as we know by personal examination, is at least 100 per cent. better, and in some instances very good indeed. It is a question of teaching; but the best work of that nature is found in continuation school gardens, in which only youths who have left school can be legally taught by County Councils. In many of these the work is splendid, and far in advance of that of men in contiguous allotments. If all boys over, say, eleven or twelve years of age could be similarly taught, a more land-loving race of men would follow, and if the best of those who had acquired the art of cultivating the soil profitably were afforded facilities for its acquisition to the extent that would be of real and actual benefit to them, the more reluctant they would be (as Sir William Hart Dyke observed at the meeting referred to on page 357, last week) to abandon "the villages in which they were born and bred."

Young men cannot or will not remain there until they have acquired a taste for home pursuits, and can see something in view besides, as the Dean of Rochester has said, "lumbago and the work-house." Education has taught them the truth, as phrased by the Dean, that "in every other department of life the working man has a chance to rise," and their venerable spokesman wants to see more small holdings or little farms within the reach of earnest striving workers on the land. This social policy has not in the past found favour—we will not say among landowners so much as agents and

large farmers; but the latter fear it much less now than they did twenty years ago.

Let us see how the combined system of one very large farm in a parish famous for its small holdings works in actual practice. The great farmer, who is, perhaps, the largest grower of Celery in the kingdom, is an alderman of one of the County Councils. On his being asked by the writer if he would, had he the power, throw a number of these small holdings into a few large farms the answer was an emphatic "No." He further gave the reason somewhat in these words—"If I want a dozen men, more or less, for a week or fortnight to get certain work done quickly the required number come at ordinary wages readily, work willingly, and leave pleasantly when the work is done. They like to earn a little ready cash now and then, while it pays me to let them do so. The advantage is thus mutual, and we all get on well together. They have learned to work briskly for themselves, and they work briskly for me, and I would not have them disturbed." Would it be to the disadvantage of large farmers if similar conditions obtained in other districts?

By giving a sound theoretical education to lads in village schools on such subjects as previously indicated, supplemented by lessons on the land, under competent, practical teachers, the recipients will start the battle of life with educated brains and educated hands, and additional interest will be given to the work they do because of their being trained to understand it; then, if they are afforded a "chance to rise" by their own exertions, substantial inducements will be made for those who are born on the land to remain there to their own advantage, and to the advantage of village industries and communities.

That we are a long way behind Switzerland, for instance, in our methods of useful education is apparent from the following citation from a narrative that appeared in the *Journal of Horticulture* more than twenty years ago. It was written by a Swiss gardener then and now practising with marked success as a head gardener in this country:—

"The peasants in Switzerland acquire a love for arboriculture while yet at school. A plot of ground planted with an assortment of fruit trees being generally placed at the disposal of the schoolmaster and his pupils, he will give them lessons on grafting and budding; explain to them the merits of the different varieties, and thus implant knowledge into their young minds which generally bears fruit in after life. On one occasion I saw half a dozen youngsters clambering up a wild Cherry tree that had previously been lopped, and under the direction of the long-coated, spectacled wielder of the rod, they commenced grafting the tree with some new varieties that had been received. If some such system were adopted in the schools of our English agricultural districts, it would diffuse practical knowledge among our rising generation, the importance and results of which could with difficulty be estimated."

It may be added that Switzerland is a country of small holdings, owned by the occupiers, and the plots are mainly planted with fruit trees. In England practical teaching would have to be adapted to the requirements of the workers as governed by existing conditions to best meet the object in view. So far the most useful lessons on the land are given under the auspices of some of our County Councils, and it is not easy to see what other body of administrators could better understand the educational needs of particular country districts.]

PITTOSPORUM MAYI.—The planting of shrubs is ever going on, and naturally so when we find the beautiful effects many of our best known plants produce. I often wonder if we give sufficient trials to many of our least known shrubs with a view to testing their qualities in different situations, for the expense would be so small that even if a small percentage were to be found suitable the experiment would not have been in vain. In newly planted shrubberies, and where sufficient space is left for future development, many smaller growing species might be planted in between for immediate effect, and the one occupying this heading is certainly worthy the attention of anyone ordering at the present time. It makes a charming bush plant, and is more than suitable in pyramid form. Perfectly distinct, its small silvery grey foliage on chocolate stems presents a most telling effect.—R. P. R.

IS GARDENING ADVANCING?

WHEN I read the article signed "Westerner" with the above query as a heading on page 263 of the *Journal*, I said to myself, "H'm, that needs thinking about, I'll take a little time about it." I have done so. It was fermenting in my head a week later, when I had occasion to send to the Editor an Apple for confirmation of name, and, having explained about the Apple, I, most irreverently I admit, put in a chaffing note, being in merry mood, on, "Is gardening advancing?" whereupon the Editor most editorially rebuked me. It will be hardly conceivable, but, irreverently again, I laughed. There is no teaching some people respect for authority, is there?

I could not get the query out of my head, however; it kept tumbling about, and I determined at last to get rid of it. But how? Ah! there's the rub. It is (the query, I mean), and it isn't, I said; it is both yes and no. How will you reconcile two opposites? how can positive and negative assimilate? They can, and do. Here, take the *Journal* of the next week, October 5th, and read the account of that glorious show at the Crystal Palace; does not that say, yes? and say it out loudly and emphatically, too. Then take that saddest of all the pages of our *Journal*, the last but one, and see the gardeners (such a lot of them) wanting places, advertising week by week and month by month, some of them, and will not these men say, with crushing emphasis, No, gardening is not advancing, worse luck. Again, the prizetakers at the different great exhibitions will triumphantly shout out, Oh, yes! gardening is advancing splendidly; look at me! so many first prizes. Why I've made so much and so much in hard cash, besides cups, certificates, and medals. But the poor unsuccessful exhibitors will ruefully shake their heads as they cast up expenses and say a low-voiced but very pronounced, No! Why, more than one will say, I've come all these miles (from the far end of Scotland, let us say), and it has cost me so much, and never a prize to get. Oh! no, gardening is going to the dogs, I tell you; I'll show no more! things are not as they used to be!

Oh, yes, "gardening is advancing." No doubt of that, will say the gardener to some plutocrat. See what a splendid collection of Orchids we have, as well as the best ornamental plants! We are going on, I can tell you! But what will the old gardener say who is dismissed on the break-up or reduction of staff at so many of the old houses and gardens all over the country? Will he not say, as he mournfully considers his long service, his advancing years, and his gloomy prospects at finding another place; will he not say, No!

The question must no doubt, to get at the root of it, be widened, be opened out; and taken in the concrete, as a whole, the answer must be, Yes, gardening is advancing. In the abstract, in epitome, the answer will be in numberless cases in the negative. Gardening, like everything else mundane, follows the great and irresistible law of evolution, and evolution, rightly guided, means progress—progress on the lines of the survival of the fittest, and demand and supply; and the tremendous wants of the people have brought about that equally tremendous supply of their necessities, which has made commercial gardening one of the striking facts of our horticultural life. On this plane gardening is advancing by such gigantic leaps and bounds as to take away the breath almost of old steady-going people. We have only to look at such establishments as the Rochford's (to name only one firm), to see to what extent gardening has advanced on the lines of their trade.

It may be contended that this style of gardening, though eminently useful, is by no means advancing gardening—going onward, upward. But Pope I think it is who says:—

"'Tis use alone which justifies expense,
And splendour borrows half her rays from sense."

And therefore there is a going onward, though on different lines than in the past, and as the dying king found out in "The Passing of Arthur," "the old order does change," and gives place to new, and all for good, too, that it is so. We who are getting into the "sere and yellow" leafage of our lives (don't read it "sour and yellow," please!) have to recognise this truth, and we do recognise it, for the wisdom that comes with age has taught us that, and the best of us adapt ourselves to the new circumstances and environments as best we may.

The scene of the chief gardening—ornamental gardening, certainly—of the present day is shifted from the aristocracy to the plutocracy, and the leisurely gardening of a past age is transformed into the alert, systematic, departmental gardening of the present. Whether this state of things will produce as good a race of all-round practical

gardeners as the past is open to doubt and debate, and the old men will say positively, No! in this respect gardening is not advancing. Still, the world moves and the rising generation, with the splendid advantages they have in the matter of education, with the abounding and restless energy of their youth and the go-ahead spirit of the day, will carry the avocation onward and upward, so that facts will show that we must say, as the world will say, that "gardening is advancing."

I am sensible that this is a very imperfect as well as a belated contribution to this very interesting subject, but then we in the country are slow, and I am not only—N. H. P., but also "AN OLD PROVINCIAL."

PANSIES AND VIOLAS.

FOR the decoration of the garden in spring there are few plants which are more valuable than a good selection of Pansies or Violas. Planted separately or in mixture they make most distinctive and effective displays, and the blooms are useful for cutting. Sometimes gardeners are at a loss to know what plants to grow to enable them to have something which will afford a liberal supply of attractive blooms to associate with other material. Pansies and Violas are amongst the most useful for affording a prolonged supply, and endeavours ought to be made annually to provide a number of the best varieties which can be drawn upon for this purpose. With special attention of a simple character, in the form of supplying moisture and rich top-dressings, the plants may be kept growing and blooming during the hot weather. The best season for them is early spring, or from March to June. After this extra attention must be given to prolong the blooming.

Pansies and Violas—the latter are frequently called tufted Pansies because of their compact growth—are propagated by seeds, cuttings, and divisions. The best time for sowing seeds is early in July, but they may be sown in heat in spring for an autumn display. On the whole, however, summer sowing is the better, as the seedlings require less attention in the various stages, providing a moist and shady position is selected for their cultivation. When raising Pansies and Violas from seed the first essential is to procure a good strain from a reliable seedman. Seed is usually offered at prices varying from 1s. to 5s. per packet, and where a fair number of plants are wanted the larger packets will give them. Seed might be sown now, but the seedlings will naturally move very slowly, requiring a little heat and a very light position. They must be kept in the seed pots throughout the winter, and be pricked out in fine light soil in boxes in February.

In raising plants early in the year seed must be sown in February or March. The preparation of the seed pots or pans may be the same, whatever season the seed is sown. Good drainage ought to be provided, and this protected from choking with soil by laying upon it some moist moss, or the rougher parts of the compost. The latter may consist of loam, leaf soil, and sand in equal parts. Fill the pots or pans, and make firm and level; water slightly with a fine-rosed can, and after draining sow the seed thinly, covering with a dusting of fine soil or sand.

In spring heat will be necessary to induce germination, but the pot or pan should be plunged in a moist medium, and the surface prevented drying by shading with moss or paper until the seedlings appear. A temperature of 55° to 60° will be suitable. Prevent the seedlings becoming drawn by affording plenty of light to them, but shading from powerful sunshine. As they increase in size give cooler treatment and more air. Prick out the plants to still further strengthen in boxes, where they may remain until the time arrives for planting, gradually inuring them, of course, to outside treatment. With the exception of raising in heat, the treatment may be the same for the summer sowing.

A frame is a good place to stand the pots or pans at that time. Should a spent hotbed be available, a few inches of soil placed upon it, and made fine and smooth on the surface, will afford an excellent place to sow the seed, and also to prick out the young seedlings. They seem to grow more vigorously in the well-drained moist position a frame provides. Seed-sowing is the only way of raising a stock if plants are not at hand or have to be purchased.

A more seasonable method of propagation, as it can be carried out now if the old plants are available and are furnished with the right material, is by cuttings. The best cuttings are not obtained from the strongest looking shoots. The reverse is the case. If a Pansy or Viola has had its flowering growths cut back a few weeks preceding the present time, young growths will be springing from the centre. These are of a wiry character, and each can readily be detached with a little root adhering or attached to its base. It is best to obtain them with the small portion of root.

A position to receive the cuttings must be prepared in a frame, either choosing one where they can have the whole space or share it in association with cuttings of *Calceolarias*, which need a similar

position and treatment. Growths 2 inches in length form the best cuttings, and they may be inserted 2 inches apart on a bed of sandy soil over a layer of decomposed manure in a cold frame. The end of each cutting should rest on a firm sandy base, and if the surface of the bed has a layer of sand upon it, in making the hole for the cutting some of it will run down and be of benefit in inducing roots to form. After insertion water-in the cuttings with water from a fine-rosed can. Then place on the lights and give a little air until the cuttings have formed a callus at their base, from which in time roots will originate. Cuttings inserted with roots, however scanty, will soon commence to grow, when air ought to be freely given, but only on favourable occasions.

In March the present cuttings will be plants fully established and commencing to flower. That is the time to place them in their permanent quarters. By planting in March they have a longer time in which to become established before hot weather comes. Late planted Pansies never seem to succeed as well as earlier established; and sometimes the plants succumb entirely if soil does not adhere to the roots, and the latter are not plentiful and fibrous.

Division is another method of propagation, and well adapted for increasing the number of ordinary flowering varieties where old plants are plentiful and well furnished with young growths. Lift the plants and cut off all flowering shoots, then with a knife divide the compact cluster of growths into convenient pieces for planting, each with roots attached. Plant these 4 inches apart in rows a foot asunder, providing a piece of well worked, enriched ground to receive them. Decomposed manure, leaf soil, and wood ashes, well incorporated with the staple, seem to suit these plants, and just previous to the advent of hot weather surface dress with leaf soil, loam, and manure passed through a riddle. All the plants, including seedlings, rooted cuttings, and divisions may be treated to this top-dressing in summer.—E. D. S.

THE NANNY APPLE.

I AM sending you by this post a sample of the Nanny Apple, a variety which appears to have well nigh gone out of cultivation, as I never see it now in any nurseryman's lists.

The fruits sent are only ordinary samples, gathered from old standard trees, probably from sixty to seventy years old, but still vigorous and fruitful. For the past twenty-three years we have never missed a crop from these trees, though some seasons it has been heavier than others; generally, however, the crop is heavy.

I consider it a good dessert Apple, and its season is from the end of September till Christmas. The fruits sent have been gathered some five or six weeks and stored thickly together, almost in a heap, which has doubtless somewhat prejudiced their flavour.

I should be glad to see your opinion of them in the *Journal of Horticulture*. I consider this Apple is at least equal to some varieties of far greater fame, and altogether too good to be lost in obscurity.—A. E., Devon.

[We are much obliged to our correspondent for the samples, and fully agree that this old Apple is altogether too good to be lost. The fruits before us exactly correspond externally and internally with the late Dr. Hogg's description of the variety in the "Fruit Manual," which we cite as follows:—"Fruit, medium sized, 2½ inches wide, and 2½ inches high; roundish, narrowing towards the apex, and somewhat angular on the sides. Skin, smooth, greenish yellow, with broken streaks of red, on the shaded side, but bright red, streaked with dark crimson, on the side next the sun; the whole strewed with russety dots. Eye, open, with divergent segments, placed in an angular basin, which is marked with linear marks of russet. Stamens, marginal; tube, long, conical. Stalk, short, inserted in a rather deep, round cavity, thickly lined with rough russet, which extends in ramifications over the base. Flesh, yellow, rather soft and tender, juicy, sugary, and highly flavoured. Cells, roundish ovate; axile, slit. A dessert Apple of excellent quality, and when in perfection a first rate fruit; it is in use during October, but soon becomes mealy. The tree attains the middle size and is a good bearer, much more so than the Ribston Pippin, to which the fruit bears some resemblance in flavour."

The fruits before us, even if slightly angular, are attractive by their brightness in colour. The quality is decidedly above the average. The flesh is not hard and crisp, but tender and melting, juicy, sweet, with a delicate aroma. Though not equal in the last named respect (aroma) to Ribston Pippin, Cox's Orange, Allington Pippin, Margil, and Charles Ross, the texture of the Nanny would be preferred by many persons as more toothsome and enjoyable. It will be observed that Dr. Hogg observed the fruits "soon became mealy." There was a suspicion of meakiness in the fruits examined, but only faint, though they would not keep in condition till Christmas; this may, however, be in part the consequence of their having been "thickly stored, almost in a heap." Do trees of the Nanny bear in a comparatively young state?]

**LÆLIA MRS. M. GRATRUX.**

At this period of the year the fortnightly meetings of the Royal Horticultural Society at the Drill Hall do not usually comprise very many Orchids. The display on the 24th inst. was, however, somewhat of an exception, for not only were the plants comparatively numerous, but they were also of great interest. In addition to an effective little group, Messrs. J. Veitch & Sons, Ltd., Chelsea, contributed three hybrids, each of which was given an award of merit. Of these we give an illustration (fig. 71) of *Lælia* Mrs. M. Gratrix, which was raised by Mr. Seden from a cross between *L. Digbyana* and *L. cinnabarina*. Considering the plant has grown from seed sown four and a half years ago, it had made excellent growth and was carrying a flower of great substance that had a width of quite 4 inches. The prevailing colour is buff in sepals and petals, each of which follow the last-named parent, and in the lip, which, however, is tinged with rose. This organ partakes of *Digbyana* in the fringing of the front lobe. It is an attractive flower, and came in for a considerable share of admiration.

STENOGLOTTIS FIMBRIATA.

Showy and attractive Orchids from South Africa are not numerous, but this is exceedingly pretty when in flower, and even the little green rosettes of foliage are not without a fresh and lively beauty. The flower spikes grow about a foot high, and are closely covered with small rosy purple flowers. This is an average form, as much larger ones are often flowered. Its culture resembles that of the *Habenarias*, and growers are too apt to make the same mistake with it as they do with the latter—i.e., keeping it too dry after the leaves are dead. The plants are put on one side and forgotten, becoming quite shrivelled, a state that annually sees them weaker and weaker, until they cease to be of any real value. The best way to grow it is to place a strong root in a 5-inch pot in a compost consisting of two parts of loam to one of peat and leaf soil, top-dressing with live sphagnum to prevent very rapid evaporation which renders frequent waterings necessary. Give ample root moisture as soon as the top growth is getting well away, and keep this up until after flowering, when return it by degrees. *S. fimbriata* thrives best in a structure kept slightly warmer than the *Odontoglossum* house.

ODONTOGLOSSUM GRANDE SUPERBUM.

In this fine variety the flowers are much brighter in colour and leaves than in the typical form, and it is an excellent early winter flowering kind. Large plants with half a dozen or more spikes make a remarkably fine show, and it is as easily cultivated and as free flowering as the type. Here it does remarkably well and flowers annually in a cool fernery, and in many places it is grown in greenhouses not specially devoted to Orchids. The plant in fact is not nearly so fastidious as *O. crispum* and its allies, for these will not put up with rough treatment.

ODONTOGLOSSUM TRIPUDIANS.

This is one of the brightest of *Odontoglossums* now flowering, and a useful and beautiful plant. In habit it is a good deal like *O. Pescatorei*, and it is occasionally imported with this species. The flowers occur on arching spikes, are bright yellow with brown markings, something in the way of *O. triumphans*, but rather smaller. The plants

do best in quite a cool moist house, this being kept very closely shaded during summer. Small pots are best, and the usual peat and moss mixture over good drainage is the best compost. *O. tripudians* was discovered many years ago in New Grenada by the ill-fated Polish collector M. Warscewicz, and has been frequently imported since. The specific name is given on account of the dancing attitude of the flower.

CYCNOCHES CHLOROCHILON.

This pretty plant I have noted in flower several times lately, and as I have before remarked, the best forms are, in nearly every case, those with the fewest flowers to the spike. The sepals and petals vary a little in colour, but are usually yellowish green, the lip white with green markings. The column is long and curved, with a roundish knob where the pollen masses are inserted, resembling the head and neck of a swan, from which circumstance the species has obtained its popular name. It thrives best in a hot moist house, in a substantial compost, liking ample moisture while growing, and quite dry treatment in winter.

VANDA MULTIFLORA.

I recently received a spike of this Orchid from a correspondent in the Midlands who was very much disappointed in it when it flowered. I am not much surprised at this, for however interesting it may be botanically, it certainly is not worth growing when such lovely plants as *V. suavis* or *V. tricolor* can be grown with just a little trouble. The spikes are tall and erect, and the colour of the flowers

varies considerably. It thrives in a warm house with ample root and atmospheric moisture.

CATASETUM TRIDENTATUM.

Most growers like the quaintly formed and distinctly coloured Orchids contained in this genus, and the species named is one of the best of them. The plant is a stout grower, easy of cultivation, and it flowers very profusely provided the growths are well hardened and ripened after flowering. The treatment required is not unlike that of some of the deciduous *Dendrobiums*, as the pots should not be too large; they require a strong moist heat,

with ample light while growing, and in winter a distinct dry resting season. The best compost is peat and moss, with a little loam for the strongest plants.

DENDROBIUM PHALÆNOPSIS.

This grand species is already in flower in variety, the colours ranging from the deepest crimson and purple to pure white in the sepals and petals. Its culture is now better understood by cultivators than formerly, and given a hot moist house, with a sufficient number of plants, there is no reason why this should be dull for the next three months. It is a beautiful plant, and deserves its great popularity, its introduction a few years ago marking quite an era in Orchid culture.—H. R. R.

PEAR BEURÉ CAPIAUMONT.—Not considered by any means a first-rate variety, *Beuré Capiamont* is with us, on stiff land and a clayey subsoil, one of the useful sorts that we cannot afford to dispense with. I have been trying to call to memory a time when it has failed to give us a crop but cannot, and this year, when the Pear crop is so small, we have *Capiamont* giving us the best of results, the fruit being of really good flavour, and, as a gentleman remarked, a break from some of the more sugary ones. Its one fault seems to be in the short time it keeps in condition, and those not well up to its vagaries will do well not to trust to its clear yellow skin and crimson cheek, but sample before sending to table. Any with the black spot round the eye of the fruit when ripe will be found useless and quite gone at the core. It makes a handsome bush, pyramid and espalier.—LIVERPOOL.



FIG. 71.—LÆLIA MRS. M. GRATRUX.

PROPOSED NATIONAL GRAPE TROPHY.

HONOUR to whom honour is due! Mr. Hudson speaks of the proposal of a national Grape trophy as Mr. Buchanan's, while Mr. Goodacre, in the next paragraph on page 330 speaks of himself as "the originator of the proposed national trophy." It certainly was Mr. Buchanan who started the subject, likening it to the America's cup, and that at a small gathering after the close of the Royal Caledonian Horticultural Society's autumn show in Edinburgh last September. Mr. Goodacre, as the only other prominent Grape grower present, was asked for his opinion of the proposal, which he willingly gave, approving of it, and promising his hearty co-operation. This is a small matter, but one must surely have been the originator, and having been present, I readily say that that one was Mr. William Buchanan. No doubt Mr. Goodacre had forgotten the exact circumstances when he penned the opening words of his letter.—P. MURRAY THOMSON, *Secretary and Treasurer, Royal Caledonian Horticultural Society, 5, York Place, Edinburgh.*

To Grape exhibitors it is gratifying to see in our Journal so much interest shown in the scheme to establish a national, or may I say international, challenge Grape trophy. Why is Ireland left out in the cold? Surely our brethren in the Emerald Isle deserve a chance of joining in the fray.

I concur with Mr. Goodacre when he says, "If the trophy has to be raised by public subscription the subscribers must have a right to arrange the conditions of competition." To this end money will have to be collected, and my mite is ready. It has been suggested that the contest be alternately held in London and Edinburgh, and that the two great Royal Societies take the cup under their wings. To this proposed arrangement I venture to say that there are serious drawbacks.

In the first place, it is well known that the Royal Horticultural Society holds its great autumn fruit show only on condition that £100 is provided to the prize fund by public subscription. This is not always easily got, therefore no reliance can be placed upon the continuation of the great exhibition of British-grown fruit. Then the Royal Caledonian Society claims the right to pick and choose exhibitors. Numerous complaints have been made from time to time relative to the Edinburgh shows. The only redress the Council of the R.O.H.S. gives is to put in force the bye-law, which runs: "The Council reserves right to refuse any entry without giving any reason therefor." This bye-law is applied to those who have the audacity to complain of the management.

These are conditions hardly palatable to would-be competitors in an international challenge trophy, especially to those living south of the border.—J. MCINDOE, *Hutton Hall, Guisborough.*

I THINK Mr. Buchanan's suggestion that a national cup be provided for a collection of Grapes is a capital one. If the Shrewsbury Committee take the matter up on behalf of the dwellers south of the Tweed, depend upon it it will be dealt with in no half-hearted manner. I would suggest, in order to prevent confusion in future contests in all Grape classes, the Royal Horticultural Society's 1899 Judging Code be the standpoint in defining distinctness as to variety admissible. Then there will be no necessity for either a Shrewsbury or a Philadelphia lawyer.—JOHN CAMPBELL, *Mickleover Manor, Derby.*

UNDOUBTEDLY if a national trophy could be raised a great impetus would be advanced in Grape-growing, although it appears we as a nation already "lick creation" in that special line. If worked on the America cup principle I do not see why any horticultural society that is in a position, and willing to offer substantial cash prizes in addition, similar to those offered last August at Shrewsbury, and whose show is held somewhere between the middle of August and the end of September, should not be eligible to apply for the honour, the first applicant to be accepted the first year, the second the second year, and so on, otherwise ballot for the choice.

Possibly Grape growers residing in the south of England would be somewhat handicapped as compared with those living in the north or Scotland, where the climate is more humid; if this is so, it may be advisable to include six other kinds of fruit, or varieties thereof, to make a dozen or more dishes.

If the whole of the sixty Victorian medalists could be persuaded to subscribe a couple of sovereigns each, why, the thing is done, the funds would be forthcoming, and an appropriate name provided. On that list would be found the name of—W. CRUMP, *Madresfield Court.*

WITH regard to the proposed challenge cup, I think that if such competition be inaugurated, it should be held under the auspices of the leading horticultural associations of both England and Scotland. Such a class as proposed would create an immense amount of interest and friendly rivalry between the two countries.

In order, however, to make it truly national, I think it ought not

to be confined to individual growers, but rather that a dozen or more bunches from a fixed number of varieties be selected from the exhibits of each country's representatives on the day of the show. This would be the means of bringing into one class the best examples of Grape culture in the country, or at least of those that are exhibited, and would afford encouragement to those who are not in a position to stage six varieties, however good or meritorious their individual bunches may be.—W. NEILD, *Cheshire.*

MY opinion of the proposed cup is that it would put the finishing touch on all former horticultural honours, and give a great stimulus to Grape growing. I think there ought to be three of the principal horticultural towns in England picked out—say London, Shrewsbury, and Manchester—three for Scotland—Edinburgh, Glasgow, and Dundee; also, for such a great prize, I think five or six money prizes ought to be given, and, if possible, to reduce the number of bunches to six now and again, so that small growers would have a chance in the competition.

I quite agree with Mr. Crump's reading of the Shrewsbury schedule. There ought to be inserted in the schedules of societies a list of synonymous Grapes or fruits for the guidance of competitors.—T. BOYD, *Callendar Park, Falkirk.*

PERSONALLY (and I hope there are not many people with such a sordid turn of mind) I have no ambition to hold for twelve months a piece of metal, however valuable, belonging to someone else. Gardeners now-a-days are not over-rich, many of them every year have to give place to cheaper men, and we know not whose turn will come next. Therefore, as gold cups, not our own, will not furnish shoes for our children or bread for ourselves, if you want to tempt such unimaginative growers as myself you must offer hard cash in sufficient quantity to pay expenses and a little to spare. Have the challenge cup in addition if you will, for there are many young growers who would be proud to win it.

The Show at Shrewsbury being necessarily held in the summer is too early for the challenge cup. To produce at that time perfect specimens, both in size and finish, of Muscat of Alexandria or Mrs. Pearson entails great expense; indeed, I question if the very liberal prizes given at the late Shrewsbury Show would cover such expense. The Shows at the Crystal Palace and at Edinburgh are held at a very suitable time, and there is no question in my mind that if the inducement was offered better shows of Grapes would be held at these places than it is possible to have at Shrewsbury.

I have an idea, but have not thought it out sufficiently, that the cup might be kept by the two great Societies. If it is won by a grower north of the Tweed, let the Royal Caledonian Society have charge of it till the following exhibition; if by a southern grower, never mind whether he be English or Scotch, they are all the same to me, then let it be held by the Royal Horticultural Society, and so on till the very unlikely time comes when it is won by the same grower two years out of three.—WM. TAYLOR, *Bath.*

THERE is, on the part of most contributors to the discussion of the above proposal, a delightful airiness and cheerfulness with respect to the raising the sum of £100, wherewith to purchase the cup in question, that is most refreshing. Evidently the various writers do not regard the prospective money market as "tight." I am in the matter perhaps less optimistic, and think that this sum of £100 may be very difficult to raise. Even more than that, I think that so large a sum wherewith to purchase a challenge cup is too much, as silver being cheap, a superb cup or vase should be obtainable for £50. Still more, for that sum the piece of plate should be less a cup than a very handsome ornamental object on which some of the art of the designer has been bestowed. Too often these challenge cups are, so far as design or taste is concerned, lumpy, inartistic, worthless objects.

But the next question is, once the challenge object is obtained, under what conditions is it to be competed for? When it is assumed that it may be won outright in some three years by the same competitor, it is further assumed that a fresh object would be easily got. Once the first disappears from competition I have grave doubts whether a second one will ever follow. If the challenge object is not to be a perpetual one, to be held for the year only by the competitor who has won it for that year only, then the proposal had best be allowed to lapse. The competition for it should be described as for the great annual challenge trophy, and that would make it permanent.

Then it is suggested that the names of the annual winners of the trophy should be inscribed upon it. To enable that to be done would necessitate the whole of the surface of the object being plain, or devoid of all ornamentation, and disfigured by these inscriptions. That notion had best be dropped. It ought also to be understood that should any year's competition fail, the trophy should remain in the keeping of the Society where the competition was to be held until

the year following, when at the next competition it should pass to the Society responsible for that competition.

Then comes the question of cash prizes. Whatever may be the amounts, these, the first one especially, should be fixed in amount just as though no trophy were added, as that could not become permanent property. But the money values ought not to be inordinately high, and for twelve bunches, in not less than six varieties, a first prize of £10 is, I think, ample, the others being £9, £8, £7, £6, or £40 in all, not an excessive sum for any society to find to secure so great a competition. The competition should be open to all the United Kingdom.

When I suggest that it may not be so easy to raise the needful sum for the trophy, especially if it costs £100, I would point out that the Royal Horticultural Society seeks to raise that sum yearly to enable it to hold its great Crystal Palace Fruit Show, and rarely, I believe, gets the entire amount. That shows even with a much greater constituency than Grape growers are, that the obtaining of considerable sums for such prize purposes is no light task. For the present it seems enough to limit the competition to England and Scotland by turns. When Ireland can win the trophy then the competition may well be taken to Dublin or Belfast.—A. D.

THE suggestion is a very good one, but I fear will bring out but poor competition, especially when held in Edinburgh, from English competitors. Employers in England give, as a rule, but small encouragement to their gardeners to compete in such classes, believing that growing Grapes for competition is not conducive to a good supply of useful sized bunches of Grapes for the table. The class at Shrewsbury, although not a large one, brought only six exhibitors. This is a little disappointing to the public, but not to me, for few gardeners are able to present twelve bunches of six varieties of Grapes all in good condition at one date without growing specially for it.

I am of the opinion had Shrewsbury added the £100 to the prizes they now give in the open classes and provided, say, six good prizes for three bunches each of all the leading varieties of Grapes separate, we should have had a much finer show and a greater number of competitors. This would give all growers a chance, and the long lines of stands might be made quite as attractive by introducing a better arrangement for staging and decorating.—JNO. LAMBERT, *Powis Castle*.

In common with many whom I have conversed with on this subject, I fail to see the aim and scope in the object of the challenge. Is it meant to be betwixt English and Scottish gardeners, or between England and Scotland?

Let us have a national Grape trophy by all means, but let it be national, and open to all comers, irrespective of place of birth or breeding. The winning of such a trophy would shed lustre on any locality, as well as on the individual who secured it. It is only natural that they should make the most of the prize whilst in their possession.

Leaving the discussion of time and place to those likely to engage in the contest, I will conclude by saying that if the trophy is to be contributed by the horticultural world I shall willingly add my mite.—VOX.

THE proposal that a challenge cup for Grapes should be established and offered for competition at our great autumn shows in England, Scotland, and, I hope, Ireland also, is in itself an excellent one, and deserves the earnest consideration and the active support of all those who have the welfare of high class British gardening at heart, and I have little doubt that when the pros and cons of the scheme have been well thought out and elaborated the proposal will be carried with acclamation to a successful issue.

As helping to elucidate the many side issues which naturally surround a question of this importance, I would suggest that the scope of the object aimed at be enlarged in order to make it more representative of other high arts (than Grape growing) in practical horticulture; say, for instance, that the cup should be offered the first year for a collection of Grapes, the second year for a collection of fruit grown under glass, the third year for a collection of out-of-door grown fruit, and the fourth year for a collection of vegetables.

Thus would the movement draw within its influence all those aspects of gardening which may, I think, be termed the most important—I mean the economic, skilful, and industrial. By this suggested arrangement I know it will be objected by many that the cup would be a wanderer and a fugitive, and would scarcely ever find a permanent home. This I grant, and when the value of the cup, say £100, is taken into consideration, your readers, I think, will agree with me, that we must not make the absolute winning of the cup an easy matter for anyone. But as this would be a sort of blue ribbon among practical gardeners, the winning and the holding of the cup for one year would be considered a reward and prize enough by most

gardeners with perhaps the remote chance of claiming it right out by winning it three times, not necessarily in three consecutive years.

I would further suggest that the winning of this cup should carry with it a gold medal for the winner, to be given by the executive of the show at which the cup had been won, on which would be engraved a fac-simile of the cup with suitable inscription. It would be an open question whether a money prize ought also to be given. I am inclined to think that the cup and medal would be honour enough, but would suggest that a second and third prize, say of £10 and £5, should be offered.

As regards initiating a start in the movement, a representative committee should be formed and a meeting held in London (where Scotland and Ireland could be represented), where questions of detail could be considered and a plan for carrying out the project adopted, including an appeal for subscriptions, which, when received, could, if thought well, be invested in the hands of trustees, on the same lines as the Veitch Memorial medals.—OWEN THOMAS, *Royal Gardens, Windsor*.

NOTES ON ALPINE FLOWERS.

GERANIUM WALLICHIANUM.

WHILE some few of the Geraniums are adapted for the rockery, many are more suitable for the flower border. Among the former is this Himalayan species, which is quite neat in its habit, and will be found serviceable in some rock gardens not too large in size. There are two or three plants passing under the name of Wallichianum. These resemble each other in general appearance, the chief difference consisting in the size of the plant. It is probable that they are only what may be termed geographical varieties, and that they are rightly named, although not quite the same.

I have what I consider the best form for the rock garden of moderate size. It was bought as *G. Wallichianum* "true." As already indicated, the writer is not prepared to say that this is the only true form. One will only go the length of saying that it is the best for the rock garden. It grows about 6 inches high, and has flowers called blue. It is the colour of the blooms which is the weak point of this plant. The blue is not a good one, having an appearance of the colour being past its best. I find that this Geranium likes a place which is a little on the dry side. Some say that it is not quite hardy, but the experience of the writer, and his comparison of notes from friends, leads to the conclusion that with ordinary care this plant is hardy on well-drained rockwork.

TIARELLA CORDIFOLIA.

Tiarella cordifolia is known to some better by its popular name of Foam Flower, than by its botanical one; yet the latter is simple enough to be easily remembered, and the use of botanical names has considerable advantages. Although a plant known to many interested in alpine, it is yet unknown to a great many who ought to grow it, so that a few brief remarks upon it will not be superfluous. It is a pretty little plant, growing from 6 to 12 inches high, when in bloom. The flowers are small, white, and arranged in a simple raceme on neat scapes. The leaves are heart-shaped, lobed, and rather hairy above, with the under surface pubescent. There seem to be two forms in existence—the one sending out stolons, and the other not possessing this habit.

The Foam Flower, which comes from North America, bears also the name of False Mitrewort. It was originally introduced in 1731. *Tiarella cordifolia* likes a half shady position, in moist but not heavy soil. In such a place it thrives admirably, and forms a pretty picture when in bloom, with its nice racemes of white feathery-looking flowers. It may also be mentioned that *T. cordifolia* belongs to the Saxifrage family, and that it may be increased by division. It is quite hardy, but is sometimes lost through drought.

CHIONODOXA TMOLUSI.

The beauty of the Glory of the Snow entitles it to a place in every rock garden. It is not too much to say that many have not sufficiently realised the value of the bulbous plants of spring and autumn for alpine gardening. When they once take their true place in alpine gardens the *Chionodoxas* will not be out of sight. While, botanically speaking, the difference between *C. Tmolusi* and the well-known *C. Lucilæ* does not exist, there is a difference for garden purposes. The flowers of some plants of *C. Lucilæ* may much resemble in colour those of the one under notice; but, as a rule, those of *C. Tmolusi* are darker and more effective. It also comes rather later into flower, and well-established bulbs yield more blooms on a stem. Those who have not grown *C. Tmolusi* will, if they can obtain the true flower, not regret making its acquaintance. One thing which may be mentioned is that in its native habitats it grows on the banks of streams, where in spring it gets plenty of moisture from the melting snow, while *C. Lucilæ* is found in a drier place. No time should now be lost in purchasing bulbs.—ALPINUS.



RECENT WEATHER IN LONDON.—The fog, of which metropolitan gardeners had far too much a few days ago, has now disappeared. In its place we had on Saturday night, Sunday, and Monday morning heavy rain; but towards midday on Monday the rain ceased, and the sun shone brightly in the afternoon. On Tuesday it was clear and cold; while on Wednesday it was bright and fine.

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, November 7th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Prof. Geo. Henslow, M.A. V.M.H., at three o'clock.

— **GARDENING APPOINTMENTS.**—Mr. J. Turner, late general foreman (in charge) of Glynllifon Park Gardens, Carnarvon, has been appointed head gardener to E. S. Trafford, Esq., Wroxham Hall, Norwich. Mr. Walter Ager, gardener to Major Raach, M.P., Woodhill House, Danbury, succeeds the late Mr. Pickaley as gardener to Robert Miller, Esq., St. Leonards, Ingatestone, Essex. Mr. Joseph Bailey, under gardener at Woodhill, will be Mr. Ager's successor there.

— **WEST DERBY GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—The second season of the above Society opened in a most promising manner, firstly by a good attendance of members, and, secondly by the Society having such an excellent Chairman as the Rev. J. O. Coop to preside. In another instance the Committee were fortunate in being able to secure Mr. T. White (who lately resigned the chairmanship of the Liverpool Horticultural Association) to give the first lecture. Mr. White is a thorough practitioner, and his pleasant and instructive manner was used most effectively in describing "The increase of new plants by the art of hybridisation." Mr. C. A. Young, of the Floral Nurseries, never neglects such meetings, and his sensible remarks on the subject and those of Mr. Massey were most appropriate. The Chairman and lecturer were heartily thanked for their services. A capital syllabus for the season has been prepared, Mr. R. Pinnington being the next lecturer.

— **COUNTY POTATO COMPETITIONS.**—"Observer" (page 359, October 28th), is well-meaning, but dreadfully illogical. He grumbles at a competition for Potatoes alone, and protests that prizes for collections of vegetables would be ever so much better. He then goes on to suggest, with a complacent satisfaction that betokens a sense of giving wise counsel, that what should really be done is to organise a competition for Potatoes as dug on the land. He overlooks, however, this inevitable deduction—that if a collection of vegetables is better than a collection of Potatoes on the show table, it follows that to judge the produce of a whole garden or allotment must be better than to judge only twenty roots of the Potatoes in it. This is exactly what is done by the Technical Education Committee of the Kent County Council, a sum of about £150 being annually paid in prizes for cottage gardens and allotments. The Potato shield is an extra. Has "Observer" induced his particular County Council to do more in the direction indicated?—W. P. WRIGHT, *County Gardens Superintendent, Willesborough, Ashford, Kent.*

— **DEATH OF MR. GRANT ALLEN.**—We regret to have to record the death at Hindhead, Surrey, after a protracted illness, on Wednesday, October 25th, of this popular writer. Though of late years Mr. Grant Allen's energies have been mainly devoted to novel writing, his true bent was found in studies of nature, and some of his works, written in the most fluent and graceful style, have met with wide appreciation. His name will not be unknown to readers of the *Journal of Horticulture*, to whose pages he has contributed on more than one occasion. The deceased was born at Kingston, on the St. Lawrence, Canada, in 1848. Our contributor, "E. K., Dublin," sends the following lines:—

"Glimpses of Nature" showed the studious mind
Of the Great Mother's truly gifted son,
Telling of those who sweet communion find
When once the entry to her kingdom's won.

"We could have wished the threescore years and ten
He had been spared, more secrets yet to tell,
'Twas not to be; at rest the magic pen;
Farewell, thou gifted one—a long farewell."

— **BROCKWELL PARK.**—Mr. C. E. Tritton, M.P., presided over a meeting of the Executive Committee formed for the purpose of acquiring 42½ acres of wooded land at Herne Hill for the purpose of enlarging Brockwell Park. The price asked by the trustees of the Blackburn Estate was, says a contemporary, considered reasonable. Mr. Albert Larking, the Honorary Secretary, read a letter from Mr. Lawrence W. Chubb, Secretary of the Common and Footpaths Preservation Society, guaranteeing a contribution of £1000 from a member of that body, provided the extension of the park was secured in two years. The Chairman, Mr. Tritton, guaranteed £500 towards the expenses in promoting the scheme, and Mr. A. B. Stevens, M.B., a member of the executive, did the same to the extent of £100.

— **THE LATE MR. JAMES MARTIN.**—At the close of the last fortnightly meeting of the Reading and District Gardeners' Mutual Improvement Association, at which a paper, "How to Keep a Greenhouse Gay from October 1st to March 31st," was read by Mr. Blake, foreman, East Thorpe Gardens, Reading, it was unanimously decided by the members that a memorial should be raised to the memory of the late Mr. James Martin, and that it should take the form of providing for a gardener's orphan child, to be placed on the Gardeners' Orphan Fund, to be known as the "James Martin Memorial Orphan," and a committee was formed to carry out the scheme. During the evening Mr. William Baskett, for many years head gardener to the late W. I. Palmer, Esq., was made a life member of the Association, this being the first occasion the life membership rule has been acted upon.

— **AUTUMN FRUIT FROM CANADA.**—A few days ago a goodly parcel of Canadian Peaches and Pears was sold in Covent Garden Market by auction, with the most satisfactory results. The Peaches were particularly good, but the Pears were exceptionally fine, and they made as high as 9s. 6d. per small case. The shipment was sent out under the auspices of Professor Robertson of Ottawa, who is specially responsible for the trial shipments which have lately been sent over in small fancy packages, and there is no doubt that in future seasons Canadian Pears will secure the patronage of the best buyers in the trade. The representative of Professor Robertson, who is now in this country, informed us that they have now obtained the right temperature to keep the fruit in perfect condition while on board the fruit boats, so that nothing stands in the way of large and regular shipments of Canadian Peaches and Pears during the autumn months. Millions of both kinds of fruits are promised the trade for next year.—("Daily Mail.")

— **ROYAL GARDENERS' ORPHAN FUND.**—At the first meeting of the Committee after the recess, held on the 27th inst., W. Marshall, Esq., in the chair, it was arranged that the annual general meeting shall take place on February 16th next, when there will also be an election of candidates for the benefits of the Fund. The following special receipts were announced: By the sale of flowers at the Wimbledon Horticultural Society's Show, £6 10s.; Sandringham Estate Cottage Garden Society, £5 5s.; Betchworth, Brockham and Buckland Horticultural Society, £4 6s.; Harvest Thanksgiving Collection at Rangemore, Burton-on-Trent, per the Rev. A. Lowe, £4 10s.; one-half of the "gate" obtained by throwing open the gardens at Ragley, Alcester, per Mr. A. D. Christie, £2 9s.; by sale of fruit at Worcester, per favour of the Agricultural sub-Committee of the Worcestershire County Council, £1 17s. 4d.; by sale of flowers at the Chislehurst Flower Show, per Mr. J. Lyne, £4 6s. Candidates' nomination forms can be obtained from the Secretary, Mr. B. Wynne, 8, Danes Inn, Strand, London, W.C.

— **APPLE CHARLESTON PIPPIN.**—I know the Charleston Pippin very well, although it is a good many years since I have seen it. It takes its name from Charleston near Wakefield, a village, now a large colliery just outside the park of Nostell Priory, where it was grown when I knew it. It was of fairly good quality after Christmas, certainly better than the King of the Pippins, and as far as I recollect a good bearer. It no doubt got its name of Charleston Pippin from having been grown there, just as the Normanton Wonder gets its Yorkshire name from the neighbouring village of Normanton. "T'hemlender" no doubt refers to the original seedling tree; it would be interesting to learn where that is, apparently in the neighbourhood of Tadcaster, where it seems to be known by that name.—C. W. STRICKLAND. [We are very much obliged to Sir Charles Strickland. Charleston Pippin, referred to on page 381, is evidently the correct name of T'hemlender, which is obviously a local colloquialism. We quite agree that it is better in quality than King of the Pippins, though we can only regard this hardy, serviceable, and reliable bearer as second-rate. Perhaps Mr. Clayton will make further inquiries as to the place of origin of the Apple in question.]

— **PRESERVING GREEN PEAR.**—A correspondent, "S. D.," desires to know, through our columns, of a good method of preserving Green Pears. As we have not experimented in this direction, we shall be glad if any of our readers can give the desired information.

— **SPIRÆA VAN HOUTTEI.**—Frequent praise is bestowed on various Spiræas, and, in fact, as a whole they are indispensable among shrubs. But it is seldom that Van Houttei is mentioned. In the writer's estimation—and many others would willingly concede its worth—it is the best of the shrubby Spiræas. It is supposed to be a hybrid, but its parents are not positively known. But from the foliage and flowers, one would pick out *Reevesiana* (*cantonensis*) as a possible parent. In grace and beauty it far surpasses the one mentioned by its part-pendulous habit, forming a beautiful, symmetrical specimen with a maximum height of 6 feet, and fully the same breadth. The leaves have considerable resemblance to the Maidenhair Fern, which at once speaks favourably for it.—("Meehan's Monthly.")

— **TREATMENT FOR SOILS.**—The productiveness of the soil depends largely upon how it is cultivated, and also, of course, to a considerable degree upon the heat and moisture it receives. Uncultivated land, according to J. H. Bone, of the Okla Experiment Station, contains 2 per cent. less moisture than cultivated soil when both are kept free from weeds. In most soils of the Central West the question of moisture is of more importance than direct plant food. Increasing the supply of decaying vegetable matter is desirable, as this aids in the retention of soil moisture. The frequency of cultivation will depend largely upon the season. Enough should be given to keep the weeds down and the soil in good condition. In the Okla experiments land ploughed in March contains more moisture than that ploughed about the middle of April. Shallow ploughing will not maintain as much moisture in the soil as deep ploughing, while subsoiled land contains more moisture than unsolled.—("American Agriculturist.")

— **BRISTOL GARDENERS' ASSOCIATION.**—The fortnightly meeting of the Society was held at St. John's Parish Room on Thursday last, Mr. C. Lock presiding over a large attendance. Mr. A. M. Rose, of Downside, Stoke Bishop, read an interesting paper on Grape culture. He dealt with the subject from the making of the Vine border to the colouring of the fruit, stating his opinion as to the method of procedure most likely to secure good results. The border, he said, should be partly inside and partly outside the house, well drained, and 3 feet in depth, made with a compost consisting of good loam, lime rubble, wood ashes, bone, and a small quantity of Thomson's Vine manure, the young Vines to be planted in a growing state. Prizes for single bunches of Grapes were awarded—First, Mr. Edwards; second, Mr. Sutton; third, Mr. Shelton.

— **BUTE BOTANICAL SOCIETY.**—The opening meeting of this session was held on October 24th. There was a good attendance of members, several ladies being present. Miss Douglas (Vice-President) presided, and after the preliminary business had been disposed of, called upon Mr. Cuthbertson to deliver his presidential address. Mr. Cuthbertson said that at the beginning of last winter some of them wondered if there would be sufficient energy left in the Botanical Society to carry it through another session. Looking back they must say that last session was the most profitable one they had had. That was owing to the actual work done at the meetings in the way of dissecting flowers which Mr. Ballantyne placed before them. They started the present winter with the most encouraging prospects, and their Society would continue its successful course so long as the members took part as before. Owing to the number of new members the Committee had arranged for several nights being taken up with elementary work. This would be advantageous to both new and old members. They did not claim that their Society was for anything more than the study of popular botany, and to make them take a more intelligent interest in the common plants of the wayside. After referring to the three systems of botany, the speaker dealt more particularly with that of Jussieu, and which he termed the natural system. By it the vegetable kingdom was divided into two parts—flowering plants and flowerless plants. Mr. Cuthbertson spoke of both classes, and illustrated his remarks by several diagrams which were hung round the room. Mr. Ballantyne, in the course of a short address, gave some interesting and valuable instructions regarding the drying and mounting of plants. He exhibited several specimens of mounted plants, which were handed round and much admired by those present. Mr. Whyte gave some of his experiences in drying and mounting specimens, more particularly with reference to the preservation of the colours, which in some cases he found impossible.—("Rothesay Express.")

— **A SCOUNDREL.**—Mr. John Thomson writes from Clovenfords:—"We have found out who stole the Gardeners' Orphan Fund collecting box. He pled guilty in court and received sentence for his theft. Part of the stolen money has been recovered."

— **CONCERT AT CHERTSEY.**—On page 358 of our last issue, in referring to a concert at Chertsey on November 2nd, it was stated to be in aid of the Royal Gardeners' Orphan Fund, whereas it is being organised for the benefit of the Gardeners' Royal Benevolent Institution.

— **ANOTHER MONSTER VEGETABLE MARROW.**—Two notices of large Marrows have recently appeared in the Journal, and now another specimen has come forward to break the record. It was grown by Mr. Cooper—a cottager I believe—at Saltley, a suburb of Birmingham, and weighs 63½ lbs., being nearly 20 lbs. heavier than that grown by Mr. J. Eales, Knowle Hall Gardens, Birmingham, described on the 26th inst. Stuffed with sage and onions, what a grand mock Christmas goose it would afford for a large family dinner party.—W. G.

— **VIOLET PRINCESS OF WALES.**—I am sending for your inspection a few flowers and leaves of Violet Princess of Wales, thinking you might be pleased to see them after "Rambler's" remarks on page 354. Doubles and singles are alike excellent in health, size and colour of blooms. I have gathered to-day (October 30th) 172 bunches of eighteen to twenty blooms, and could pick many more. If you would like to see a sample of doubles I will send them.—WM. JAS. PENTON. [The Violets are superb—indeed we have rarely, if ever, seen finer. The richly coloured, delightfully fragrant flowers (one of which was nearly 2 inches across), were on very stout footstalks from 10 to 12 inches in length. The leaves, too, were of great substance and shone with the glow of health. It is very apparent that Mr. Penton understands Violet culture thoroughly, and he would be doing a service to many readers of the *Journal of Horticulture* if he would give his methods of procedure in complete detail. We shall be delighted to see the double varieties.]

— **FRUIT AND MEDICINE.**—"Fruit," says "Modern Medicine," "is chiefly water, the amount of nutrient material it contains varying from 5 to 8 or 10 per cent. in most fruits, rising to a higher figure only in dried fruits, such as dried Grapes, Prunes, and Dates. The writer has succeeded in reducing excessive weight in the most satisfactory manner by prescribing a diet consisting almost exclusively of Grapes or Apples, allowing only a small bit of thoroughly dried bread in connection with the fruit. In some cases the fruit may be allowed as often as three or four times a day, to relieve a sensation of emptiness. Remembering the interesting fact pointed out by Bouchard, that rheumatism is really a toxæmia, resulting from the decomposition of food stuffs in a dilated or protracted stomach, we may also attribute the beneficial effects of a fruit diet in rheumatism and allied conditions to its value in suppressing the formation of poisonous substances in the alimentary canal." We must remember, says Mr. Meehan, that an article in a magazine is only the opinion of one person, and that in medical magazines especially we find the truth of the saying that "doctors differ." In practice, the last thing taken is too often regarded as the cure. A large series of observations is necessary before a fair deduction can be made. In relation to the use of natural fruits in rheumatism it may be said, however, that there is good reason for the belief that they are very useful.

— **METHEOLOGICAL OBSERVATIONS AT CHISWICK.**—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
1899.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
October.										
Sunday ..22	E.N.E.	deg. 48.1	deg. 42.9	deg. 53.3	deg. 39.9	ins.	deg. 46.4	deg. 49.9	deg. 53.3	deg. 39.0
Monday ..23	N.W.	48.8	43.8	54.0	39.1	—	46.9	49.9	53.1	38.4
Tuesday ..24	W.N.W.	47.5	47.5	59.9	42.5	—	47.1	50.2	52.9	33.1
Wed'sday ..25	E.S.E.	49.7	47.9	59.7	39.8	—	49.1	50.5	52.9	34.9
Thursday ..26	S.S.W.	55.1	52.6	57.2	44.9	0.91	49.7	50.9	52.8	33.9
Friday ..27	S.W.	57.8	56.3	60.2	53.9	1.08	51.8	51.3	52.8	51.5
Saturday ..28	S.S.W.	58.8	57.2	62.7	57.1	—	54.2	52.1	52.8	51.9
MEANS ..		50.8	49.7	58.1	45.3	Total 1.29	49.3	50.7	52.9	40.1

Another week of dull sunless mild weather, with thick fogs during the first three days.



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for recording those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries:—

- Nov. 3.—EVEESHAM.—G. Wit's, Eveesham.
 „ 3, 4.—BATTERSEA.—Hon. Secretary, 167, Elsiey-rd., Lavender-hill, Battersea, S.W.
 „ 7, 8.—BRIGHTON.—James Thorpe, 58, Ship-st., Brighton.
 „ 7, 8.—BIRKENHEAD AND WIRRAL.—W. Riley, 28, Whitford-rd., Birkenhead.
 „ 7, 8.—COVENTRY.—John Cooper, 31, Foleshill-rd.
 „ 7, 8.—CROYDON.—W. B. Beckett, 272, Portland-rd., South Norwood.
 „ 7, 8.—WEST OF ENGLAND.—Chas. Wilson, 4, North-hill Plymouth.
 „ 7, 8, 9.—BIRMINGHAM.—J. Hughes, 140, High-st., Harborne, Birmingham; F. W. Simpson, Victoria-rd., Birmingham.
 „ 7, 8, 9.—NATIONAL CHRYSANTHEMUM SOCIETY.—Richard Dean, Ranelagh-rd., Ealing, W.
 „ 8, 9.—BATH.—B. R. F. Pearson, W. Jeffery, 2, Northumberland-buildings, Bath.
 „ 8, 9.—BOURNEMOUTH.—James Spong, Lindisfarne Gardens, Bournemouth.
 „ 8, 9.—BRISTOL.—Geo. Webley, Westbury-on-Trym, Bristol.
 „ 8, 9.—CARDIFF.—H. Gillett, 66, Woodville-rd., Cardiff.
 „ 8, 9.—KINGSTON-ON-THAMES.—W. D. Elsam, Kingston-on-Thames.
 „ 8, 9.—BROMLEY.—W. Weeks, 29, Widmore-rd., Bromley, Kent.
 „ 8, 9.—ASCOT.—C. Gordon Shackle, St. George's, Ascot.
 „ 9.—WINDSOR, ETON, AND DISTRICT.—Mr. Herbert Finch, Bank House, Eton.
 „ 9.—LAUNCESTON.—E. Leamon, St. Stephen's, Launceston.
 „ 10, 11.—DERBY.—H. J. Bell, Normanton-rd., Derby.
 „ 10, 11.—ECCLES.—H. Huber, Hazeldene, Winton, Patricroft.
 „ 10, 11.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.
 „ 10, 11.—SHEFFIELD.—Wm. Housley, 28, Joshua-rd., Sheffield.
 „ 10, 11.—ALTRINCHAM.—C. C. Moore, 22, Railway-st., Altrincham.
 „ 14, 15.—LEEDS PAXTON.—Wm. Smith, The Gardens, Westwood Hall, Leeds.
 „ 15, 16.—HULL.—Edward Harland, Manor-st., Hull; James Dixon, 2, County-buildings, Hull.
 „ 14, 15.—LIVERPOOL.—Harold Sadler, 7, Victoria-st., Liverpool.
 „ 15, 16.—RUGBY.—Wm. Bryant, 8, Barby-rd., Rugby.
 „ 15, 16, 17.—YORK.—Geo. F. W. Oman, 38, Petergate, York.
 „ 17, 18.—BOLTON.—James Hicks, Markland-hill-lane, Heaton, Bolton.
 „ 17, 18.—BRADFORD.—R. Eichel, Eldwick, Bingley.

N.C.S. FLORAL COMMITTEE.

ON Wednesday the 25th ult. the Floral Committee of the above Society held a meeting at the Royal Aquarium, Westminster. The display, if not large, consisted of some remarkably fine novelties, and first-class certificates were awarded as under:—

Mrs. A. H. Hall.—This is a very fine, massively built flower, large and globular, with grooved florets of medium width, colour deep orange yellow, shaded golden bronze. Exhibited by Mr. R. Kenyon.
Florence Molyneux.—This is also very large, and is a close, compactly built flower of great substance. The florets are twisted, of good width, and grooved, and the flower belongs to the Japanese incurved section; the colour is white. From Mr. N. Molyneux.

In fig. 72 we give a photographic reproduction of Florence Molyneux, which received an award of merit from the Royal Horticultural Society on the 24th ult., ere migrating to the N.C.S. for a first-class certificate.

Edith Pilkington—A Japanese with long, drooping, medium-sized florets, which are twisted and curly; the colour is a pale shade of canary yellow, deepening towards the centre. Staged by the same exhibitor as the preceding.

Miss Godsmark.—An incurved of close and regular form, with a good breadth of floret, rather large in size, and the colour bright reddish chestnut bronze. This came from Mr. R. Owen.

Miss Alice Byron.—A noble Japanese flower of great dimensions, very globular and deep in build, and the broad florets closely and compactly arranged; colour pure paper white. From Mr. H. Weeks.

Among other novelties were Miss Lily Boutroy, Madame Gabrielle Debie, and Miss Maud Douglas, which the Committee wished to see again; Ada, a large Jap of an orange bronze shade; Miss Elsie Fulton, a large white Jap, and several other very promising novelties.

VOTING AT THE N.C.S. FLORAL COMMITTEE.

I THINK this body acted wisely in attempting to reform their practice in the direction of adding to the value of the certificate of merit by making it more difficult of attainment. There can be no doubt about it that both the N.C.S. and the R.H.S. certificates and awards of merit have been given to new Chrysanthemums with far too lavish a hand. Let anyone obtain a list of the new varieties so distinguished during the past three years and note how many have failed to justify that award when subjected to cultivation. It is no secret that small minorities of both Committees have voted on a motion to make an award to a new variety, carrying it or rejecting it by very small majorities either way. When opinion for and against is so evenly balanced the value of a certificate is largely discounted.

It has been felt that certificates and awards of merit have been granted much too cheaply, and powerfully assisting to bring this about is the influence of the trade, who are always feverishly desirous of obtaining an award for a new variety for purely commercial purposes, because it is considered the gaining of any such an award enhances the monetary value of a new introduction.

I fail to perceive anything the Floral Committee of the N.C.S. did in formulating their new rule to bring the Committee or the Society into disrepute. A new regulation had been formulated, no doubt with the laudable object of insuring a good attendance of members out of a Committee of twenty-two persons, making it necessary that an attendance of ten persons was required to grant a certificate of merit, and it was demanded that the votes of these ten should be unanimous. Above that number a three-fourths majority was required to make such an award.

I am informed (for the proceedings of the Floral Committee on October 10th are no secret) that two or three members of the Committee, no doubt well qualified to form an opinion, thought Mr. Weeks' white Jap, Miss Alice Byron, not sufficiently distinct from Mrs. Weeks, and in that belief refrained from voting. It was the abstentions from voting which prevented the requisite majority from being obtained.

It is currently reported that at a meeting of the Floral Committee of the N.C.S., on the 25th inst., the three-fourths majority requirement was withdrawn, and now a bare majority of those voting can make an award. It is a retrograde step on the part of the Committee which many will deplore, and certificates of merit can now be obtained as readily as of yore. It is a great triumph for Mr. Godfrey. He will, of course, claim that the withdrawal of the regulation is due to his action, and it will be generally considered it is so. But the consistency of the Committee cuts but a poor figure in the face of such a surrender.—MORE SUO.

A BATTLE WITH THE RUST FUNGUS.

I WISH indeed I could help "X. Y. Z." (page 363) in his "battle with the rust fungus." Too late, too late, for me to do so. My advice in these pages has been strategical rather than hard fighting. I am glad to inform you I have kept the enemy at bay this year—pulled through again with a clean bill. An ingenious youth has promised to snap-shot my greenhouse, and I may again send you photo evidence of the "Mums," feathered with foliage down to the ground. Vines, Tomatoes, Roses, and what not, have also maintained their foliage, and given good crops of flowers and fruit. This makes the sixth year that my practice has been to avoid any sloppy syringings or spraying whatever. I can give no advice as to those drastic mixtures—which "X. Y. Z." must now use—so much in vogue and recommended. Early and persistent applications with the Malbec bellows of the dry, impalpable anti-blight powder is sufficient for me.—ROBT. FENN.

OUR experience here goes to prove that there is no necessity to get into a panic over this pest if it is only taken in time. We bought in a few hundred rooted cuttings of Niveus in the spring which were as badly infested as possible, and would have been promptly burned had I been at home; however, finding them dipped and potted, I concluded to give them a trial. Our grower, Mr. Leadbeater, dipped them in a solution of sulphide of potassium, subsequently syringing them three or four times at intervals with Condy's fluid as an additional safeguard. We have not seen a spot all the summer, and they are now grand bushes absolutely clean. The moral is, Begin early; it is much easier to dip a cutting than syringe an old plant, and it is also possible to absolutely cleanse it, which appears to be extremely difficult in the later stages.—CHAS. E. PEARSON, Chilwell Nurseries, Notts.

EXHIBITING CUT BLOOMS.

THOSE who contemplate competition at the forthcoming shows should not lose a point by neglecting any little thing which can be done to give a nice "finish" to their blooms. For this purpose the flowers should be watched whilst yet on the plant. The large Japanese varieties for example, however well they may be unfolding, often have

have found that the hand which pulls out most florets does the greater good. Incurved blooms must have this attention. It should in all cases be done while the blooms are developing, so that other florets may have room and time to fill out.

I have known growers deeply concerned because a good bloom may show an eye. Of course such a thing is faulty on the exhibition



FIG. 72.—CHRYSANthemum FLORENCE MOLYNEUX.

some florets shorter than the bulk; others, too, may curl the wrong way, and thus prevent symmetry. These should be removed at once. Some, again, get entangled one with the other, which if carefully loosened have an immediate effect upon the form of the whole. Big buds frequently produce such a wealth of florets towards the centres, that it is impossible for all to develop. These again may be thinned by taking away from the centre a few at a time, and in this matter we

stand, but the defects may be removed by taking out the yellow disc a few days before the flower is cut. The variety *Oceana* is a capital example to illustrate what I mean. A first-rate flower of this should have broad petals, and these desirable specimens are not usually obtained when the buds are "taken" early. Its centres are close it is true, but early blooms have a squat appearance. Later buds, however, have a tendency to produce an eye even when the bloom is well

grown; but if such growth be removed a few days before the flower is fully out the top florets will meet, and a perfect globe is formed. Ella Curtis and Edwin Molyneux are two other well-known sorts which frequently produce this defect; yet in the latter case a magnificent telling flower on a stand may be made by removing the disc, and carefully placing the florets so as to cover the hole at the top. Madame Carnot and Vivand Morel represent types which can hardly be improved by manipulation.

In regard to damping of the florets, this should be guarded against by ample shade. Crimson coloured sorts, and bronzes with small florets, appear most affected by the sun, such as William Seward and Col. W. B. Smith. These are given as examples because well known. I would not let the sun shine on blooms of them at any time. Scalding, or damping generally, is usually caused by the sun catching the blooms in early morning, whilst the tender florets are cold and moist through passing the dark night; shade, therefore, must be provided quite early in the day. It is not wise to use stimulants beyond a very weak strength for the purpose of forcing the blooms open. This is sometimes done by the aid of sulphate of ammonia or nitrate of soda. These salts are powerful, and may kill the roots instead. They are excellent if used often at the rate of $\frac{1}{2}$ oz. to 2 gallons of water.

Blooms are frequently spoiled by the use of too much fire heat and a close atmosphere. Just enough of the former to keep the air of the house moving, and ventilators never quite closed, will conduce to the proper opening of the flowers. One can tell at once on entering a structure if such conditions are observed. Green fly and its attendant evils certainly follow an over-supply of fire heat, and it also tends to take the substance from the blooms by forcing them open too quickly.

In cutting specimens for exhibition, I would urge beginners especially not to be carried away unduly by mere size. Of course, if a bloom is large, and has the proper colour, is well formed and fresh, it obtains an advantage over one of medium size; but a coarse bloom of, say, Mrs. C. H. Payne, although it covers a big space on a board, cannot, in the eyes of any judge, be placed before a well-grown one of Mdle. Thérèse Rey, which is naturally a smaller flower; and a Madame Carnot, chosen for its lovely recurring form, as it comes from buds which are late in formation, if rather small, is infinitely better than a huge bloom from an early bud, which gives a flower composed of a mass of ill-formed quill florets. Too much pains cannot be taken in choosing the blooms true to the character of each variety. An incurved Japanese should not be represented by a specimen with perhaps three parts of the petals of that form, and the centre ones trying to reflex. Freshness is a point of great importance, and this quality is usually found most in medium-sized blooms. Each flower must be shown to give its true character. That is, a deep bloom should not be pushed up to give it extra width, and thus take away from its depth. Judges regard the latter a primary point.

Something may be done in retarding early developed blooms, to keep the same for a particular date. They should be allowed to fully open under glass, and then the plant may be stood in a dry shed or outhouse that is naturally darkened. It is better to do this than to cut the flowers and attempt to keep them in water. The roots should be on the dry side, but if the leaves incline to droop, then water ought to be given. We have thus exhibited perfectly fresh blooms after being so treated for ten days or more.—A GROWER AND JUDGE.

CULTIVATION OF SINGLE CHRYSANTHEMUMS.

For affording excellent blooms for cutting, with a view to embellishing vases and glasses indoors from October to January, the single Chrysanthemum claims some attention from the numerous growers of the Japanese and other sections of the Eastern flower. The single form has been greatly improved of late years both in size of bloom and colour. The characteristic of the single varieties is that they are only furnished with a single or double row of ray florets, and have short disc florets. In good blooms both sets of florets must be distinct, not growing one into the other, and the colour of the ray florets should be good.

One of the best, and perhaps the oldest of the large single-flowering varieties is Admiral Sir T. Symonds, yellow, and a tall grower. Other good varieties, and large, are Jane, Mrs. A. E. Stubbs, and Purity, white; America, pink; Rev. W. E. Remfrey, crimson; Charming and Golden Star, yellow; D. Windsor, chestnut red; May Teal, rosy violet. There are some excellent varieties among the small single-flowering varieties, and some of the best are Mary Anderson, white; Emily Wells, clear pink; Mrs. D. B. Crane, pink; also Mrs. Langtry, pink. Buttercup and Miss Annie Holden are two fine yellows; Miss Crissy is a beautiful brown or chocolate coloured variety; Scarlet Gem is red or bright scarlet; The Echo, a terra-cotta variety. Of the above America is a tall grower, also Admiral Symonds, the rest being dwarf and of medium height.

Single varieties should be grown by everyone who requires large quantities of blooms for various purposes of decoration, because being light and free of habit they lend themselves to forming good effects

much better than the large and heavy blooms of other sections. Propagation may be readily effected by cuttings, which can be inserted in January and February. Cuttings may be purchased of all the best varieties from 3d. to 6d. each, while for the same price plants may be obtained of the older sorts, the latter being usually procured in March. The single sorts may be grown both in pots and planted out, and it is advisable to grow them both ways, and in addition to lift and pot some of the plants from the open ground.

Whatever method of culture is decided upon, cuttings must be inserted from January to March. The best are, of course, the sucker-like growths which spring through the soil away from the centre of the plants, but good cuttings near the stem, if not springing direct from it, need not be discarded. Cuttings of the right character are devoid of flower growths in the centre, therefore select such for propagation. They should be healthy, and about 2 or 3 inches in length. Remove the basal leaves and cut level below a joint. Some like sucker growths with roots attached when they can secure them, but there is no particular virtue in these; indeed it is a question whether a good cutting with a firm green base from which leaves have to be cut in order to insert it in the soil, does not make a young plant quicker than a sucker growth with a somewhat stiff, woody base and roots attached. As a rule the simple cutting is preferred.

Having prepared the cuttings, they must be inserted round the edges of small pots in a compost consisting of loam, leaf soil, and sand. Also place a layer of sand on the surface. The cuttings must be inserted down to the base of the hole made to receive them, and the soil closed in firmly round them. Water the pots gently so that the cuttings may be kept fresh, for when the leaves flag the cuttings are longer in-rooting. To obviate this, however, stand the pots in a frame and cover with glass, which will prevent evaporation. Hand-lights are even better, because they admit a maximum of light, and the pots may stand on a moist base. Avoid too much heat; a temperature higher than 50° is not necessary. Shade the cuttings from bright sun, and where moisture collects on the glass, as it will do nearly every day, wipe it off with a dry cloth.

The cuttings may be kept somewhat close until roots form and growth commences, when air must be given in gradually increasing quantity until they will admit of full exposure. Then place the pots on a cool, light shelf in a greenhouse, and as soon as a fair quantity of roots are formed, place singly in small pots in a similar compost to that used for the cuttings. A frame is then the best place for them, standing the pots on a moist base of ashes and near the glass, but cover on cold or frosty nights. When the plants have fairly started into growth in the single pots, it is advisable to nip out the points in order to make them bushy. In April give the plants a further shift, employing rather richer compost. Fibrous loam two parts, leaf soil one part, half a part decomposed horse manure, and a good admixture of sand and a little burnt refuse; mix all well together, and when potting work the soil firmly about the roots. Stand the plants again in the frame and keep the lights down close, syringing the plants lightly for a few days instead of watering the roots, but in the course of a week they will require water.

Air is also an important factor, and as soon as growth recommences some must be admitted daily, on fine days removing the lights entirely. Attend well to the watering from this time, never allowing the plants to suffer for an hour. In a short time the plants may stand outdoors constantly, but a sheltered position must be found for them where they are protected from cutting winds and frost. Tie them to neat stakes, and arrange the plants in rows, where they can be readily examined for water.

The final potting may be carried out in June. Pots of 7 or 8-inch diameter are large enough in most cases. They should be clean and efficiently drained. In preparing this compost the proportion of loam must be increased, the leaf soil and manure remaining the same as recommended for the previous potting. In addition use some crushed oystershells or old mortar, a 6-inch potful of soot and bone-meal, or the same of some approved artificial manure. Charcoal, broken fine, and wood ashes will assist in maintaining the soil porous, and otherwise prove beneficial. Mix thoroughly, letting it lie for several weeks before use, but kept in an airy, dry position. The pots ought to be clean, dry, and carefully crocked, and some pieces of fibrous turf laid over the drainage to exclude the soil.

The plants before being placed in the pots must be moist quite through the ball of soil and roots. The new soil should be packed round the ball in layers and made very firm, and when finished off room must be left for watering and a top-dressing in September. Place stakes to the plants when potting, and tie the growths to it. Stand the plants closely together for a time. For the first few days syringe the plants only; afterwards give a needful supply to the roots, and continue as required by them throughout the season. The best flowers are produced on the terminal shoots, and to obtain good and characteristic blooms one only is desirable on each shoot; therefore remove the side buds when this can be done readily.

Feeding may be commenced when the buds are set, giving weak

supplies at short intervals of some such liquid as the drainings from stables diluted to a safe strength. Alternate this with soot water or a solution of guano, as well as sprinklings of chemical manures. House a portion of the plants early in October, leaving some of the latest a week or two longer with protection in order to retard them for producing a later display. A cool, airy house is the best place for them, placing them where they can receive abundant light. Fire heat must be employed occasionally to exclude damp, and if necessary to accelerate the opening of the blooms.—PRACTICE.

OVERGROWN CHRYSANTHEMUMS.

NOT a few very fine varieties of Chrysanthemums are spoiled by being overgrown. I do not mean that they are produced too large, but that what goes by the name of "good culture" has the opposite effect to which it is intended. This thought occurred to me in inspecting two collections recently; the first where the plants are grown especially to produce show blooms, the other where the cultivator desired large flowers, it is true, but had taken no special pains to obtain them. Yet here, on comparatively weakly-looking plants, I saw some really magnificent blooms of the Japanese variety Lady Byron. They were large in width, of extra depth, full, and beautifully pure. Australian Gold of lovely form was seen under the same conditions. The long florets were built up catherine-wheel fashion to the centre, and finished a noble loose ball form quite 7 inches wide and as deep. This light yellow sort has always been a favourite of mine, but as usually seen it is wide, ragged, and ungainly, the nature of it in the collections where no stint of labour and so on have been spared to produce it in good form.

This is only one instance which goes to prove that a goodly number of Chrysanthemum flowers become contracted instead of highly developed through receiving so much in the way of stimulants and rich soils. It is a subject that will be reverted to after the flowering season is over; meantime I would ask interested growers of this favoured flower to take notes, which may be valuable, for only by a study of individual varieties can one prevent troubles and disappointments.—SPECIALIST.

FRENCH RAISERS OF CHRYSANTHEMUMS.

To French hybridisers Chrysanthemum lovers on this side have been and are much indebted. They have indeed revolutionised the Japanese flower especially, and have been the means of producing several exceedingly rich varieties that we value so highly to-day. A few years back Delaux was the name most noted in regard to new flowers; then came Calvat. This raiser produced the white Madame Carnot, which is still the ideal of a beautiful type. Of this noted raiser we would not like to say he is "played out" in the matter of sending us choice new varieties; but it does seem either that others are effecting much greater improvements, or that his are not equal to former novelties. One thing is certain, he introduces too many.

Thirty new ones in a year must necessarily mean considerable weeding out. Take the set of last year. Le Grand Dragon and Marie Calvat are probably the best. These are really fine, handsome flowers, yet just a little inconstant; and with regard to the latter, we fear many will fail with it on account of early formed buds refusing to open well. The same may be written of the former, although, when in good form, it is large in size and rich in colouring. They are both strong, easy growers, and valuable for the supply of a quantity of cut flowers. What we want to note, however, is that two is a small proportion of thirty. We tried them all. Most of them are indifferent whites and washed-out lilacs—anything but advances upon existing varieties. One—Madame René Salomon—is a fine colour, a rich brown crimson. This is really promising. It is apt to burn if the sun be allowed to reach it, otherwise there is no difficulty in the culture. M. Fatzer and Secrétaire Rivoire, two yellow shaded blooms of the same set, may also be mentioned as promising.

We say above only two varieties, and had for the moment forgotten a third, namely Général Paquie. It is rather early to bloom, hence it had missed our thoughts. This is an excellent variety, perhaps the best of the raiser's set for last year. Full and striking, with a graceful form like that of Madame Carnot, also large; it gives shades of bronze and yellow at once rich and distinct. This is an easily grown and free-flowering sort, with a good branching habit if cultivated for a quantity of bloom. Of this year's novelties of M. Calvat, M. H. Martinet is distinctly promising. In shades of colour it takes after that fine crimson and gold variety, E. Molyneux, and is full and handsome. It also has a sturdy habit of growth. Madame Lucie Recoura is a variety with well-shaped drooping florets of an amaranth colour, like the rich shade of Pride of Madford. It exhibits less of the back tint, a fault of the latter, and may be therefore named as worth remembering. Calvat 1899 gives blooms of much richness in its shades of mauve and light yellow.

Mons. Auguste Nonin is a comparatively new raiser of Chrysanthemums, but we are more than pleased with his early productions, and shall watch with keen interest any others from the same source.

Madame Gabriel Debré is a magnificent new Chrysanthemum, superb in shape and rich in colour. This has been grown a year or two, but is little known. It may be described as malmaison colour, and is especially bright. The texture of the florets is of rare quality. The flower is very deep and wide, and of loose incurving shape. A sturdy grower and of easy culture, we know few varieties which possess such attractions as this, and all cultivators should add it to their collections. President Lemaire is another from the same raiser. This is of first-rate qualities. The blooms are not unlike those of a handsome Chrysanthemum discarded by many because of its difficult culture. We refer to Beauty of Castlewood. Crimson and gold reverse with an inclination to incurve describe its form and colour. This new one is very free and dwarf.

Madame F. Daupias, creamy white, has full, handsome, drooping-shaped blooms of great size and beauty. This is said to be a seedling from Madame Carnot, and it certainly resembles that variety somewhat, except that it is dwarfer in growth and less likely to produce badly formed blooms. Others of the raiser named are promising, but these three will do much to make the name of M. Nonin famous when they are in general cultivation in this country.—EXPERTO CREDE.

G. H. KERSLAKE, JUN.

THIS new variety is a white one, and is a welcome addition to a long list of that colour. The habit of the plant is so dwarf and sturdy. It has long, flat, narrow drooping florets, and is full to the centre, besides being of comely shape. This should be an ideal variety for a bush plant, and the flower stems being stiff make it valuable also for the supply of cut blooms in quantity.—S.

HIGHGATE CHRYSANTHEMUM SOCIETY.

At a recent meeting of the Floral Committee of this Society first-class certificates were awarded to Mrs. A. Jones (Jap), seedling from E. Molyneux, exhibited by Mr. A. Jones, gardener to Miss Wyburn, Hadley Manor, Barnet; also to Mrs. J. J. Tilley (Jap), exhibited by Messrs. H. Cannell & Sons. Madame Lucie Recoura, exhibited by the same firm, the Committee desired to see again. The next meeting of the Floral Committee is November 2nd, at 3 P.M., at the Northfield Hall, Highgate.—W. E. BOYCE.

MONKHAMS, WOODFORD.

THE Essex growers seem to be determined to reach the top of the tree in the culture of the Chrysanthemum, for quite a number of exhibitors have cropped up during the past four years. Mr. R. Kenyon, gardener to A. F. Halls, Esq., Woodford Green, is one of the most prominent who have engaged in the flower warfare, and who has an idea that Chrysanthemums can be grown in Essex as good as in any other county, and this opinion is shared by his employer, who takes great interest in the flowers and their appearance on the boards.

About 450 plants are grown for exhibition blooms, though there appears to be more in the splendid orchard house where they are arranged. On my inquiring if the number would not stretch a bit, as it will in most collections, Mr. Kenyon quickly disposed of my doubts by counting a row down the house and performing the little multiplication table necessary. The plants are arranged in two huge banks, with the path down the centre. The collection at once gave evidence of the improvement in habit of the new varieties, most of which were sturdy strong plants that contrasted favourably with the 10-footers of a few years ago.

The new varieties that were developing at the time of my visit were Mrs. W. Seward, a grand colour; Helen Shrimpton, The Wonderful, Mrs. Coombs, Henry Weeks, Amy Ensall, Lord Ludlow, Lionel Humphrey, R. Hooper Pearson, H. J. Jones, Mr. A. H. Barratt, J. R. Upton, Madeline Davis, and Mr. A. H. Hall, a magnificent bronze not unlike Mrs. J. W. Barks, but an improvement on that variety. Many other novelties will now be opening, while of the older varieties Soleil d'Octobre was truly grand, with blooms as large as any of the exhibition varieties. (I wonder why the N.C.S. certificated it as a decorative variety?) Chatsworth, the Carnot family, Tatiana, M. Chenon de Leché, Autumn Glory, Mad. Desblanc, Le Grand Dragon, and Mutual Friend were all excellent.

I do not doubt for a moment but that they will give a good account of themselves and their grower at the forthcoming shows. Mr. Kenyon is already well known as a successful exhibitor at the Aquarium, Brighton, Stratford, and other shows, and if one may judge from the blooms as they are developing, the Chrysanthemum showers will find him a hard nut to crack.—J. B. R.

AT WALTHAMSTOW.

THE number of Chrysanthemum specialists appears to be rapidly on the increase. Year by year the trade growers keep forging ahead, and if we may judge by their plants and their exhibits, they appear to be well able to hold their own.

At Walthamstow we have a new grower, who has already made a name for himself in the Mum world. I say new, because Mr. J. Spink, of the Summit Road Nursery, Walthamstow, has only been growing exhibition blooms for the past four seasons. As an exhibitor of groups he has been up to the present time invincible. His principal achievements have been securing the first prize groups at all three of the National Chrysanthemum Society's Shows last season, and again adding to his laurels with a similar honour at the first exhibition this season with a group that almost defied competition at an October show.

These successes place Mr. Spink in the front rank as an exhibition grower, and it was this fact that made me think the readers of the *Journal* would like to hear a little about his prospects before the shows. Booking to Hoe Street, Walthamstow, I soon reached the nursery; but I might warn any of your readers who contemplate visiting Mr. Spink, that there are four stations in Walthamstow on the Great Eastern Railway, and that Hoe Street Station is the nearest to the nursery; this will save them a long walk or re-booking, and the consequent delay attached thereto. The exhibition plants are arranged in a new house, 100 feet long by 25 feet wide, and a beautiful sight, about 800 plants arranged in one large bed, presented. The majority are only 3 feet high, and many in 6-inch pots only about a foot to 18 inches. The colours are well arranged, and the house will soon be a picture.

All the novelties are grown, and the most promising were Mrs. Barkley, a splendid dwarf variety with immense foliage; Mrs. Coombs, The Wonderful, Mrs. W. Seward, Wattleblossom, Amy Ensall, Mrs. H. J. Jones, Little Nell, Henry Weeks, R. Hooper Pearson, W. Cursam, Lord Ludlow, Eastman Bell, Madaline Davis, and Mr. Louis Remy. Of the older varieties Master H. Tucker, Mr. T. Carrington, Mrs. J. Lewis, Madame Couvat de Terrail, Marie Calvat, S. P. Probyn, Le Grand Dragon, and Madame Desblanc, amongst many others, were quite conspicuous. At the time of my visit these varieties were developing well, and the collection is worth a visit from any grower, who will be heartily welcomed.—R.

ARUNDEL HOUSE, DUMFRIES.

In the neighbourhood of Dumfries there are not many places where Chrysanthemums are grown in large numbers. There are, however, not a few gardens in which they are cultivated with more than ordinary success. One of these places is Arundel House, the residence of John Primrose, Esq., whose gardener, Mr. J. Allan, is known as an able cultivator of Grapes as well as other things. A recent visit showed that the plants in bloom were giving many flowers of high quality, and that those still to flower give good promise. I believe there is a prospect of Mr. Allan exhibiting at one or more of the Scottish shows this season. It is not, perhaps, safe to predict that he will be successful, but one can safely say that the Arundel plants are better than many one has seen this season.

Among those in bloom one observed capital flowers of Australian Gold, Boule d'Or, Etoile de Lyon, Mutual Friend, Matthew Hodgson, Lady Byron, and Mons. C. de Leché. Baron Hirsch was also good. Among others grown and looking well were Lady Esther Smith, G. C. Schwabe, Wilfred Godfrey, James Myers, Madame Panckoucke, W. Seward, Colonel Chase, and President Borel. Nearly all the plants carry three blooms each.—CHRY.

MALTON (YORKS).

MESSRS. G. LONGSTER & SONS, who, as some readers will remember, have secured many good prizes at some of the principal shows in the north of England, especially in the Japanese section, are not growing so many plants this season for exhibition purposes. Having a great demand for cut flowers during the winter, it is found necessary to have more plants that will produce blooms suitable for this purpose. The stock consists of 200 plants, the majority belonging to the Japanese section, and includes good standard varieties, although a few new ones are also given a trial.

Two promising well are Robert Powell and Lady Ridgway, the latter especially carrying fine blooms. Other varieties worthy of mention are N.C.S. Jubilee, Duke of Wellington, Lady Byron, Mrs. G. W. Palmer and Edith Tabor. Not many of the incurved section are grown, and only the best varieties, which include that great favourite Mrs. R. C. Kingston, Baron Hirsch, C. H. Curtis, and Madame Ferlat. A few good specimen plants are also cultivated for exhibition.

Messrs. Longster speak highly of the following sorts amongst many others grown for cutting purposes. The well-known Source d'Or, La Triumphant, Rycroft Glory, Queen of the Earlies, and the old Val d'Andorre. The very hot weather during June and July, when the plants should have been growing freely, checked them somewhat, consequently they are dwarfer than usual; but perhaps none the worse. So far the rust has not caused much injury amongst the plants.—J. S. UPEX.

SHOWS.

SOUTHAMPTON.—OCTOBER 31ST AND NOVEMBER 1ST.

BRILLIANT weather favoured the opening of this Show, which was, as usual, held in the Skating Rink, a building especially well adapted for shows. The entries were numerous throughout, and the classes for cut blooms were well filled. Admirable arrangements had been made by the courteous Secretary, Mr. C. S. Fudge, and exhibitors at the Southampton Shows can have little of which to complain.

For the best collection of Chrysanthemums grown in pots occupying a space 10 feet by 6 feet, Mr. E. Brown, jun., New Alma Road, Southampton, an amateur, was well to the front with a splendidly arranged group, containing blooms of high class quality, and very fresh. Mr. Hosey, gardener to J. C. E. D'Esterre, Esq., Elmfield, Southampton, was second. The competition in the class for a central conservatory group having Chrysanthemums as a prominent feature, was good. Mr. E. Wills, Shirley, was a good first; Mr. Peel, gardener to Miss Todd, Shirley, second; and Mr. A. Bagnell, gardener to C. S. Storey, Esq., Elm Lodge, Barlesdon, third.

Cut blooms were very numerous, and the general quality was good. In the class for twenty-four Japs in sixteen varieties, Mr. N. H. Mose, Belmont Nursery, Sholing, led with splendid examples of Edith Tabor, Mutual Friend, Suzie, Phœbus, V. Morel, Australia, Madame Carnot, Mons. Chenon de Léché, Madame X. Rey Jouvin, E. Molyneux, N.C.S. Jubilee, President Nonin, Duke of Wellington, Pride of Esmouth, and Lady Ridgway. Mr. J. Wasley, gardener to J. B. Taylor, Esq., Sherfield Manor, Basingstoke, was a close second, showing in fine form Mons. Chenon de Léché, Oceana, R. Powell, Australia, Mrs. White Popham, and Lady Ridgway. Mr. G. Hall, gardener to Lady Ashburton, Melchet Court, Romsey, was third. For eighteen Japs, distinct, Mr. Mose again led with finely finished blooms. Mr. Wasley was second, and Mr. J. Agate, Havant, third.

The entries in the classes for incurved were below the average. For eighteen distinct Mr. W. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Winchester, was first. Especially noticeable were C. H. Curtis, Globe d'Or, Jeanne d'Arc, Mrs. J. Murray, and Perle Dauphinoise. Mr. J. Agate, Havant, was second. For twelve incurved, Mr. N. H. Mose led with fine blooms, the most conspicuous being Mrs. Coleman, Prince Alfred, and Mrs. N. Molyneux; Mr. G. Nobbs, gardener to H.M. the Queen, being second, and Mr. J. Agate third.

The section confined to gentlemen's gardeners and amateurs produced some good stands of blooms. For eighteen blooms, Mr. A. J. Marsh, gardener to M. Hodgson, Esq., Kingsworthy, Winchester, was first, Mr. J. King second, and Mr. G. Dawes third. In the same section for twelve Japanese in eight varieties, Mr. E. Brown led with well finished and highly coloured blooms of Emily Towers, Australia, R. Powell, E. Molyneux, and Mrs. Weeks.

In the class open to amateurs only, for twelve Japs distinct, a silver cup was presented by Mr. E. Brown, jun., and this trophy was secured by Mr. H. H. Lees, who staged excellent examples of Lady Hanham, Oceana, Phœbus, N.C.S. Jubilee, Mutual Friend (very fine), and Mrs. W. Mease. Mr. E. Brown was second; and Mr. J. T. Robb, Oak Road, Woolston, third. For six Japanese Mr. Lees again led, Mr. Brown was second, and Mr. C. R. Snellgrove third.

The miscellaneous classes and those for fruit and vegetables added additional interest to the show, and some capital collections of vegetables were shown. Mr. J. Key Allen, F.R.H.S., exhibited a very good collection of culinary and dessert Apples not for competition, which gained a well-merited certificate.

KENT COUNTY.—NOVEMBER 1ST.

THIS Exhibition was held as usual in the Rink, Blackheath, and the hall appeared filled to its utmost capacity. The competition in most of the classes was keenly contested, and the whole cut bloom classes can be recorded as a distinct advance on the last show.

For a group of Chrysanthemums to occupy a space of 50 feet there were four competitors. Mr. E. Dove, gardener to W. E. Fry, Esq., Bickley Hall, Bickley, easily secured premier honours. The group was bright and well arranged, but the blank wall behind quite spoiled its beauty. Messrs. Pollard Bros., Lee, were second with plants of a smaller type, and Mr. A. W. Hollands, Lee Park Nursery, was third.

In the class for eighteen incurved and eighteen Japanese distinct, there were three entries. Mr. W. Tebay, gardener to Mrs. Rycroft, Sevenoaks, proved the victor, with a strong exhibit. The Japanese were large and bright. The varieties were Australia, Madame Gustave Henry, Mrs. G. W. Palmer, Phœbus, James Bidentope, Mrs. J. Lewis, Soleil d'Octobre, Mons. E. Andre, Mutual Friend, International, Mrs. Mease, Milano, Mons. Hoste, Lady Ridgway, E. Molyneux, Ella Curtis, Mrs. D. Dewar, and Edith Tabor. The incurved varieties were Duchess of Fife, Dorothy Foster, Ernest Cannell, J. Agate, Chrysanthemist Bruant, Lady Isabel, Globe d'Or, Ma Perfection, Queen of England, Golden Nugget, Princess of Wales, D. B. Crane, Ideality, Chas. H. Curtis, Owen's Crimson, George Haigh, Robert Petfield, and Jeanne d'Arc. The second position was awarded to Mr. C. Payne, gardener to C. J. Whittington, Esq., Elmhurst, Bickley, who staged some good blooms in both sections. Mr. T. Robinson, gardener to Mrs. Lawrence, Hollingbourne, Kent, was placed third.

The class for twenty-four Japanese, distinct, brought out four entries. The first place was awarded to Mr. E. Dove for a fine exhibit; the varieties were Australia, Mrs. J. Lewis, Mrs. J. W. Barks, Mrs. White Popham, Madame Carnot, Yellow Eva Knowles, Lady Hanham, Mrs. Weeks, Chas. Davis, Soleil d'Octobre, Pride of Madford, Madame Gustave Henry, Madame G. Bruant, Mr. A. G. Miller, Mrs. C. S. Probyn, Mr. A. H. Barratt, N. C. S. Jubilee, Col. W. B. Smith, Swanley Giant,

E. Molyneux, Phœbus, C. B. Haywood, Mrs. G. W. Palmer and Fair Maid. Mr. H. Hurst, gardener to W. T. Holland, Esq., The Gables, Bexley, was second, and Mr. C. Jordan, gardener to H. Horkier, Esq., Hayes Common, was a good third.

Six stands of twelve varieties, distinct, were staged, the first prize falling to Mr. C. Payne for an excellent board. His varieties were Australia, Madame G. Debris, James Bidecope, Mrs. White Popham, E. Molyneux, John Bridgeman, General Paque, Purple Emperor, The Wonderful, Phœbus, Pride of Madford, and Mad. G. Marin. Mr. E. Dove was a good second, and Mr. H. Hurst third.

The incurved classes do not appear popular, and there were only two entries for twelve blooms, distinct. Mr. J. E. Poole, gardener to A. G. Hubbuck, Esq., Chislehurst, was first with good blooms of Jeanne d'Arc, Emile Nonin, Globe d'Or, Madame Darier, and Mr. Jas. Murray, while Mr. J. Lyne, gardener to H. F. Tiarks, Esq., Chislehurst, was second with smaller flowers.

There were three competitors for twelve reflexed blooms, Mr. J. E. Poole being easily first with fine examples of Dorothy Gibson, Cloth of Gold, Chas. Tutt, and Amy Furze. Mr. J. Lyne was second, and Mr. Russell, Crayford, third.

For six Japanese, one variety, white, Mr. W. Tebay was well ahead with excellent blooms of Emily Silsbury, followed by Mr. C. Jordan, who staged Madame Carnot, and the same exhibitor was third with Mrs. J. Lewis. For six coloured blooms, one variety, Mr. C. Payne was first with grand blooms of Mrs. White Popham. Mr. G. H. Meggs, gardener to C. T. Tapp, Esq., Bromley, was second with J. E. Clayton, and Mr. J. A. Baker, gardener to F. G. Boot, Esq., Mottingham, was third with Col. Smith. The incurved blooms were good, Mr. J. E. Poole winning first place with a good six of Globe d'Or. Mr. Russell followed with Baron Hirsch, and Mr. G. Evans, gardener to Mrs. T. Penn, Lewisham, was third with the same variety. Mr. Russell was the only exhibitor of Pompons, and was awarded first prize. The best were Black Douglas, Fremy, W. Westlake, and Emily Rowbottom.

For a group of foliage and flowering plants Mr. Lyne proved the victor with a group of Crotons, Palms, Ferns and Grasses, with a few Orchids, Begonias, and Anthuriums; and Mr. E. Dove was awarded third prize.

Mr. Jas. Williams, College Park Nursery, Lewisham, arranged two groups of market Chrysanthemums. The plants were growing in 5-inch pots, the majority carrying from nine to twelve good flowers. The varieties employed were Souvenir de Petite Amie, Ivory (both the pink and white forms), Phœbus, John Shrimpton, Philadelphia, and Mdle. Lacroix. Messrs. Jas. Veitch & Sons, Ltd., Chelsea, contributed an artistic group of foliage plants, including some fine Dracœnas, Crotons, Palms, and Ferns, while the flowering plants comprised a fine basket of Lily of the Valley, Cattleya labiata, well-grown plants of Ericas gracilis and hyemalis, with clumps of Begonia Gloire de Lorraine. The entire group had a groundwork of Adiantums and Gymnogrammas.

Mr. H. J. Jones was represented by a group of dwarf Chrysanthemums, backed with some Bamboos, Palms, and other foliage plants, with a beautiful surrounding of Begonia Gloire de Lorraine, edged with Adiantums and Panicum variegatum.

Fruit was extensively staged by Messrs. Cutbush & Son, who arranged over 100 dishes of Apples and a few Pears, excellent diakes being staged of Lady Sudeley, Baumann's Red Reinette, Blenheim Pippin, Emperor Alexander, and Peasgood's Nonesuch. Relief was given by some well-grown Oranges and Palms in pots. Messrs. J. Laing and Sons, Forest Hill, also staged a large collection of well-grown Apples, the culinary varieties being especially clean and bright. A few plants relieved the bareness of the table.

MERTENSIA VIRGINICA.

THE Virginian Lungwort is not, as "W. Palmer" suggests, a new plant in English gardens. It has a fleshy rhizome-like root. Flower stems 12 to 18 inches high, with numerous ovate smooth leaves and terminate clusters of flowers, each an inch or more long, tubular, with a spreading, basin-shaped limb. Before the flowers expand they are of a reddish purple colour, and afterwards change to rich porcelain blue, which, contrasted with the still unexpanded buds, is very pleasing. It flowers in April and May, and has been known in this country for nearly 200 years, being first raised from seed sent from Virginia in the garden then belonging to the Bishop of London, at Fulham, and was highly esteemed, and it is still regarded as one of our best hardy plants. It is found in all the mountainous districts of the eastern United States.

It grows fairly well in ordinary border soil, but it delights most in a mixture of peat, leaf soil, and sand in a damp and shady border; a partially shaded position; and if protected from strong winds so much the more likely is it that the period of beauty will be extended. Soon after flowering the stem dies. In this particular it differs greatly from the Siberian species, as the stems from that plant are much more persistent. The only way to propagate it is by division, unless seed is imported, but that is unnecessary, as it rapidly increases; and this should be done in early autumn or very early spring before the plants are in active growth, so as to cause as little check as possible to them.

THE FLORAL SEASON.

THE closing year of the century has been one of weather surprises; a seed time so cold and wet that, in the words of one of the humbler class of gardeners, who likes to use a big word on occasion, "The 'degeneration' of seeds could not have been worse." All plants usually put out in early spring were retarded through late planting. In the case of Carnations the soil was so hopelessly bad that some of the commoner sorts were not planted at all, and the better varieties were grown in pots and planted out in early summer. Newly planted herbaceous "stuff" made practically no growth till July, and summer blooming plants that had not been established the previous year were of only slight account. The resulting effect generally was an accession of labour, as many flower seeds that were sown where it was intended the plants should bloom having failed to germinate, it was necessary to transplant seedlings to make good the blanks.

However, with the flowering of the early summer plants which had been thoroughly established previously, the earnest of a season remarkable for the wealth and the bright colouring of its flowers was given. German Iris, English Iris, and the species such as pallida, aurea, florentina, and others which bloom about the same time,



FIG. 73.—MERTENSIA VIRGINICA.

followed by early Lilliums, croceum, elegans, and Martagons, were all surpassingly beautiful. Roses of all sections have been wonderfully profuse in bloom; the delicately chaste colorisation of the old double Scots Roses, with buds and expanded blossoms gemming the gracefully recurring branches, anew giving rise to wonder that a race so charming should have been allowed to sink into obscurity. Along with these the earlier climbing Roses yielded the eye a harvest of quiet beauty, though to the most charming of all, Paul's Carmine Pillar Rose, "brilliant" is the adjective that ought to be employed. Day after day, and week after week, until six of the latter had passed, the brilliance of its quaintly shaped blooms continued, their glory varying with the morning, midday, and evening light.

The advent of the H.P.'s. and Teas was heralded by drought and heat that was beginning to tell prejudicially on vegetation, but a dressing of chemical manure first hoed deeply into the surface soil and then washed down with water exerted an influence for good that has continued till now. The foliage and buds were cleansed of aphid by means of quassia extract in water, and an early attack of mildew stayed by spraying. I do not remember the colouring to have been brighter or purer than in this year's Roses, but in size of bloom they were less bulky than last year. The season has been further remarkable in emphasising the sterling qualities of Gloire de Dijon as a garden Rose, and in raising one's estimate of W. A. Richardson, which has bloomed continuously since May, so placing it alongside the first named as being equally indispensable; while Alister Stella Gray, though not coming into flower till late, has proved itself one of the freest to bloom of all Roses in autumn.

This year also showed us in Scotland the white Cabbage Rose in perfect condition. How perfect and pure it is! No wonder that bygone generations of garden lovers looked upon it as the acme of perfection among flowers! One would like to notice the clear pink of the common Moss Rose, and to refer to many others that have exceeded in loveliness, but to do so would occupy space required to touch on other matters.

After the Rose, the Carnation universally occupies second place. "The King of Flowers (except the Rose)," so an old writer quaintly settles the question of precedence. Carnations have been altogether disappointing. I am aware of case after case where they have failed utterly, and though they bloomed well with me, they were soon over, heavy dew causing the blooms to damp in the mass, while bees fertilised them almost directly they were expanded. Strong plants are producing an autumn bloom, fortunately, the quality of continuous flowering being a precious one in not a few of the newer race of selfs and yellow grounds. This quality is prominent in the French Grenadina, the flowers of which are small and sweet scented, scarlet in colour, or white. The promise for another year so far as the quality of the layers may have any effect is excellent. They rooted early, and are stronger than usual.

Sweet Peas have so steadily progressed in favour that not a few will be inclined to put them in the front rank of garden flowers. In gardens they are quite as indispensable as Roses and Carnations, and in all kinds of house decoration they have come to hold a foremost position. No season has been more trying to the plants than the present, and in Scotland they will be less plentiful than usual this autumn. It seems an unremunerative proceeding to gather the blooms, but in a year like the present no other means seem capable of preserving the plants in vigorous health. I was obliged to pick over the plants three times, the last time in the third week of August, when every pod, flower and bud was removed. Water could not be spared—one hedge being 150 yards in length—and it was quite a fortnight after this picking that the plants began to respond and to push fresh buds, and not till the middle of September were they again smothered with bloom. But this method is certain in its results, always provided it is put into practice before the plants become exhausted, and when not only pods, but flowers and buds also, are removed. Such an extreme measure is, of course, necessary only in a season so exceptionally hot and drying as the present.

Other plants that required the removal of seed-vessels during the greatest heat included common Marigolds, single Dahlias, bedding Antirrhinums, and tuberous Begonias. Doing so entailed much extra labour, as it required repeating at weekly intervals, but it is the only means of keeping these and some other plants in a prolonged floriferous condition.—R. P. BROTHERSTON.

(To be concluded.)

WINTER-FLOWERING PELARGONIUMS.

To begin with, the Zonal Pelargonium is what we call a manufactured flower. Nature never saw fit to endow us with it, and the hybridist counts it among his productions. As the gardener, in a sense, made it, he can also do much as he likes with it, for no plant is more accommodating, or will flourish under more unfavourable conditions. People talk about fashions changing in bedding, but the Zonal Pelargonium still holds its own; no greenhouse is complete without it; the amateur, and the housewife who tends her plants in the window, pin their faith in it, and, common as it is, the Zonal finds admirers in all classes, high and low, rich and poor.

But lately a fresh phase of Pelargonium culture has come much to the front, and this is the cultivation of Zonal Pelargoniums solely for winter flowering, and here we have the plant in its most pleasing and useful aspect. There is no great art in growing a Zonal to flower in the summer, but with this phase of culture we have nothing to do here. In anticipation of a winter display it should be borne in mind that a start has to be made a long time beforehand. The first and main consideration is to obtain strong plants, and to do this hard matured cuttings, all the better if with one or two side shoots attached, should be already rooted. If the commencement is delayed till the spring the cuttings must be rooted early, so that the plants may have a fairly long season of growth. Young plants in small pots may be kept through the winter in a cool greenhouse temperature.

By the end of May thoughts must be turned in the direction of the following winter's display. Prepare a heap of soil, composed chiefly of fibrous loam with the addition of well-decayed manure and coarse silver sand. Well-drained 6-inch pots will be a suitable size for the plants, and let it not be forgotten that firm potting is no small factor towards success. Loose potting is conducive to the production of long sappy growths, instead of that firm short-jointed wood so necessary if large trusses of bloom are to be obtained.

A shelf near the glass or a greenhouse stage is a good position to stand the plants for a few weeks, after which they should be removed to

an open situation out of doors. To prevent the clogging of the drainage by worms, it is wise to stand the pots on a layer of ashes. Judgment is needed in watering, so that the plants do not suffer through dryness or excess of moisture. Pinch out the tops of the longest shoots again and again, as the idea is to obtain dwarf-habited plants of branching rather than up-growing character. All flower buds must be rigorously removed as they appear. More room will be needed as the plants increase in size, as overcrowding should be avoided, and towards the end of September space must be provided for them indoors.

A light span-roofed house, provided with top ventilation and sufficient heat, is the best structure for winter flowering Zonals, and it is now that the plants require the greatest care. The buds may be kept pinched off until about a month before the plants are wanted to bloom, so that it is possible to maintain a close succession. During the dead of winter the trusses are apt to damp and the young stems turn sickly and yellow if care is not taken in watering and ventilating. A level temperature of 55° in the daytime, falling to 50° at night, with top ventilation on favourable occasions, and great care in watering, are the chief principles to observe. A dry atmosphere is also desirable, so that the damping down process must not be extended to the Pelargonium house. When the plants have commenced to flower a little liquid manure may be given once a week, as this will assist the plant to bear the strain and help to build up the trusses; but judgment is necessary, as stimulants must be withheld from plants growing rampantly and producing few flowers. After the winter-blooming plants have done their work cuttings may be taken from them for summer flowering, and then when too large they can be used for furnishing vases or for bedding.

To grow for winter flowering there is nothing to surpass the single Zonal Pelargonium, and so far as varieties are concerned their name is legion. There is distinction enough to suit the most fastidious taste, for the Zonal lends itself to the experiments of the hybridist, with the result that a race of large flowered varieties has displaced entirely some of the older forms. There appears, however, to be a danger of overcrowding, as many of the varieties are much alike, and an examination of a good collection before making a start will doubtless prevent disappointment.—G.

PINCHING FRUIT TREES.

MR. H. DUNKIN's sketch of fruit bud formation on page 365 is instructive to the inexperienced who are interested in the pinching question. My friendly opponent appears grieved at my loss of time in pinching for ten years. Let me assure him that my experiments have been a good investment, which will be of lifelong value. If I am expected to clothe garden trees with blossom—trees on the restrictive principle—I can do so; or I can leave the trees to assume a natural habit of growth as the object and position require.

The Pear tree in question was planted under a very large Elm tree, with a spread of branches some 60 feet in extent. It was planted with others evidently to form a screen, and a beautiful screen it proved. These trees afforded me ample scope for experiments. The situation, with its surroundings, was practically useless as garden space, but could and did give valuable lessons.

Mr. Dunkin asks, why did I not carry out my experiments on trees more favourably placed? How does he know I have not done so? As a matter of fact I have turned to account the experience gained with successful results. No matter how many buds are obtained naturally, pinching is of great importance with restricted trees. I congratulate Mr. Dunkin on asking the pertinent question in connection with pinching, and I tell him, under a strong suspicion of his knowledge of the same, that pinching is done for the purpose of inducing the formation of fruit buds on restricted trees and obtaining a large amount of fruit from a limited space.—H. MITCHELL, *Druidstone*.

[It is useless our correspondents arguing the question further, as both are right from their respective points of view.]

DUMFRIESSHIRE AND GALLOWAY HORTICULTURAL SOCIETY.—As was mentioned in the report of the Show of this Society, which appeared in the Journal in September last, the attendance was much reduced by several changes in the date, made only a day or two before. The result of this was seen in the financial statement made by the Treasurer, Mr. R. G. Mann, at a meeting held in the Town Hall, Dumfries, on 28th October. It had been found necessary to retain a considerable proportion of the prize money, in order to defray the other liabilities. In these circumstances the meeting, which was presided over by Mr. Milne, thought it would be advisable to hold no show in 1900. This is an unfortunate ending to a movement which presented a most auspicious aspect, but which has suffered from a few regrettable incidents, not likely to occur again. It is to be hoped that the Dumfries and Galloway horticulturalists will renew their efforts to have a show worthy of the district.—S. A.

PEARS DECAYING AT THE CORE.

THE rotting of Pears at the "heart" is one of the most tantalising matters affecting their cultivation. The subject seems to have received but scant attention, the affection being apparently looked upon as a matter of course in the case of some varieties. Though this may be true, we still have to face the fact of some of the fruits of a tree ripening perfectly, while others decay at the core before being fit for eating.

With other Pear growers, whose opinions would be valuable, I have given some thought to the subject, and formed certain views of the varieties most prone to the defect or tendency to rot at the "heart" before being fit for eating. Of those liable to speedy decay at the centre after becoming fit to gather a few peculiarities may be noted in alphabetical order:—

Achan.—This, supplied for Knight's Monarch, and planted against an east wall in North Yorkshire, invariably decayed at the core, but the fruit was good from a standard tree in an exposed position. In Hertfordshire, as a standard, it was almost sure to decay before being fit to eat after a warm season, while in a cold and wet one the fruit was excellent. This year the Pears were over early in October, and more than half not fit to eat, being either pasty and insipid or rotten at the "heart."

Aston Town.—In Cheshire I have found this high quality Pear of first rate ripening properties, not keeping long, but always fit to eat before commencing to decay at the core; in the Vale of York and on the new red sandstone more than half the crop rotted at the core long before the fruit was fit to eat.

Autumn Bergamot.—This fruit, possibly the oldest British Pear, sometimes rots at the core in the north of England, and in the south the marketed produce has been seriously defective during the last few years, so much so that it was difficult to find a really perfect fruit. Ordinary purchasers may not have examined carefully, indeed some prefer a bletted Pear, a taste we do not envy, as under the higher powers of the microscope the "heart" is seen to swarm with bacteria, and the lower powers sometimes reveal minute worms. Such Pears are not wholesome, and fallen fruits contract microbes from the soil.

Beurré de l'Assomption.—Against a south wall in Hertfordshire this variety was mealy and dry, then rotted at the core; in the open it also "went" at the core, and was seldom of any use.

Beurré Bosc.—On a dry gravelly soil, as a pyramid, the fruit was dry, and never melting in a dry season, while after a wet summer the fruit was juicy and melting. Against a fence and east wall in North Yorkshire it was large and good.

Beurré Diel.—In North Wales this Pear was an excellent keeper, even until December, from a tree on a west wall; it was equally good from trees on a west aspect wall in Yorkshire. In the south of England the fruit rotted at the core as early as October, very few being fit for eating. It was equally bad when grown on calcareous and siliceous soil almost devoid of lime.

Beurré Gifford.—In Herefordshire this Pear does well on the old red sandstone, usually ripening if taken in time from the tree. In North Yorkshire, as a pyramid, the fruit for many years was rotten at the "heart" when gathered, and never eatable. This was on the lia.

Brown Beurré.—Against an east wall the trees produced fruit freely, but the produce was seldom of any use, so speedily did it decay at the "heart." This was the characteristic both in the north and south of England.

Clapp's Favourite.—Against a south wall in North Yorkshire this variety was excellent when eaten as soon as gathered, but it soon went rotten at the core, though never, so far as observed, before properly ripening. In the south it is mealy from warm walls, but of first quality when gathered soon enough from trees in the open, though it soon goes bad at the "heart."

Doyenné Boussoch.—This very handsome Pear "goes" at the core, and is seldom good, or at least to be depended on, for not rotting before fit for use. It appears to decay less quickly when grown on the sand formation.

Doyenné du Comice.—Fruits were found this season rotted at the core in the earliest days of October. The early decay was manifestly due to brown rot fungus (*Monilia fructigena*), the threads or mycelium being abundant in the flesh, and even the conidial condition of the fructifying parts present in the core cavity. This parasite was unquestionably the cause of the premature decay, the germs having entered by the eye, and probably as far back as the flowering stage. Possibly this fungus has a considerable influence on Pears rotting at the core, and the matter deserves further investigation.

Durondeau.—Some fruits of this went bad this season just before ripening, and they also had the mycelial hyphae of the fungus just named in the flesh next the core, but not any fructifying parts were discovered.

Emile d'Heyst.—Season after season has this delicious fruit rotted at the core, not any being really fit for table, though some persons appeared to enjoy the so-called "bletted" fruit. No trace of para-

sitic infection could be found, though there were always present micro-organisms inseparable from the decay of organic matter.

Fertility.—On a gravelly loam on oolite, in Huntingdonshire, this Pear, from a pyramid, was dry and mealy. From Kent specimens have been received "dry as wool." On heavy soil the fruit is more juicy, but often rots at the core before ripening is completed.

Flemish Beauty.—This must be gathered before it is thoroughly ripe; then it has excellent qualities. Otherwise it is mealy in light soils, and on heavy rapidly decays at the "heart."

Fondante d'Automne.—Unless taken in the "nick of time" this delicious Pear soon decays after gathering, and swarms with bacteria. It is just as bad on light alluvial soils as on stiff loams, and best perhaps in continuing in use from trees on calcareous soils.

Gansel's Bergamot.—From an old tree against a south wall the fruit was first-rate in the vicinity of York; but in the north of that county the Pears were gritty, and decayed at the "heart." Double grafted on the Quince it was good as a cordon in the open on gravelly loam in the Thames valley, though several rotted at the core before the fruit was ripe.

Hessle.—Off standard trees in Yorkshire I have known bushels of this Pear finer than ever seen in the midland or southern counties always ripen perfectly. In the more southerly parts of the country heavy crops are known to have rotted at the core before ripening, several fruits even falling from the trees in that state. In the best of circumstances the fruit is soon over; still there is a difference according to soil and situation.

Jargonelle.—Against a south wall the fruit is mealy and flavourless in the south of England, and soon decays. In the northern parts of the country it ripens satisfactorily, even from a south wall, if gathered early. It is also good from pyramids, and from a north wall the fruit is of first-rate quality, and ripens, without rotting, in September.

Jersey Gratioli.—In North Yorkshire I have occasionally had this Pear very fine on a south wall, but generally more fruit was wasted than eaten, because rotten at the core before of table ripeness. "It bleets suddenly," says Mr. Blackmore, the produce of standard trees not being nearly as bad as that from walls.

Lammis.—This early Pear will not keep, yet seldom gets bad at the heart before being fit to eat, still it bleets sometimes very suddenly, and in the course of twenty-four hours bushels may become useless.

Madame Treve.—Pyramids of this variety on the Quince on light soil gave large fruit, but dry as a stick, yet rotten at the "heart," and rank impostors. It was fairly good on stronger land, but decayed at the core much too freely.

Marie Louise d'Uccle.—As pyramids on gravelly land the fruits of this were dry; attributing this to the gravelly medium, a strong soil was given, with the result of the fruit prematurely decaying in the centre.

Nouveau Poiteau.—This, also on pyramids, was very fine looking, but went bad before any fruit was useable.

Red Doyenné.—Though early gathering is conducive to the fruit of this variety keeping fairly well, still is prone to "go" at the core, and not uncommonly the majority of the Pears are uneatable.

Summer Doyenné.—Unless gathered before it becomes yellow, the fruit soon becomes mealy. I have, however, had it very fine from a south wall in North Wales, good in North Yorkshire, and first-rate from standards in Hertfordshire. There is no rotting at the core, though "bletting" occurs at a very early stage of ripening.

White Doyenné.—This is another of the woolly and mealy Pears when grown on warm soils and places, and on heavy land rots as often as not at the core before of eating ripeness.

Williams' Bon Chrétien.—Again a poor dry mealy fruit when grown against a wall in warm soils, but just the opposite as a bush or standard in the quality of its fruit. If gathered before it becomes yellow the flavour is better, juice more abundant, and "bletting" somewhat retarded.

Windsor.—This fine old Pear requires to be gathered before it becomes yellow, and then no early Pear excels it in quality. It requires to be grown in an alluvial soil or in a deep sandy loam, for on stiff and cold soils the tree cankers, and the fruit rots at the core.

The foregoing digest of the Pears most distinguished for bletting or rotting at the core, as I have observed them, are suggestive of the characteristics being somewhat influenced by climatic conditions, and to a still greater extent by soil. This necessarily raises the question of nutrition, but upon this point the data scarcely justifies any general deductions. Lime may be useful in some cases, and in other instances silicates would be more to the purpose, as tending to stiffen the diluquescing potassic constituent and soft nitrogenic element. Climate, however, is a factor of considerable importance, and then there is the character of the variety and inherent tendencies to be studied and provided for. Is there any better or more practicable method of improving unsatisfactory Pear trees than by cutting them down and grafting, if healthy, with other varieties that are known to succeed under similar soil and climatal conditions?—G. ABBEY.

THOUGHTS ON EXHIBITING GRAPES.

ANYTHING from the pen of Mr. William Taylor relating to Grape growing or showing is worthy of attention, and his thoughts printed on page 364 of the Journal touch a very interesting question. I have not yet been to the Shrewsbury Show, but hope to go some day, and when I planted some young Vines last spring my thoughts were whether they would eventually produce Grapes good enough to take there.

In the third paragraph of his notes Mr. Taylor has had the courage to do what I should have done before had I had the nerve, namely, to condemn the practice of decorating with plants the tables and stands on which Grapes are exhibited. I think the executive of the Shrewsbury Show introduced this decorating into the big Grape class with the idea that by doing so something more pleasing to the eyes of the public than had hitherto been seen would be provided; but I should have thought the public would have been able to satisfy their appetite with artistic plant-decoration, of which there is so much in other parts of the show, and when they came to the Grapes they would have given them the share of admiration which they richly deserved. I think, when the question of decoration was first made public, there was some correspondence in the gardening periodicals about it, and someone made the remark that it was just possible that the best Grapes would not get the first prize, but I do not infer that it was so. This is practically what Mr. Taylor means.

Your correspondent will, perhaps, be pleased to hear that the big vineyard that he built and planted and grew such fine Grapes in at Longleat in years gone by has this year again produced a splendid crop of beautiful Grapes, especially the Muscats, under the management of his old pupil, Mr. J. Trollope. When I called there a week ago many bunches had, of course, been cut and used, but there seemed to be quite a crop of highly finished Grapes still hanging.—R. M.

THEORIES do not always work out satisfactorily when put into practice, and I imagine most of the Grape growers who saw the competition at Shrewsbury will disagree with the interesting note from Mr. Taylor on decorating the exhibits (page 364). Previous to the date of the show I was rather curious to know the result of the regulation as to decorations. There is too much stiffness and uniformity in fruit competitions generally, and if confined to fruit alone this is almost unavoidable. The decorative dessert tables, now becoming more common, are a welcome relief when one is walking through a large exhibition of fruit. So, likewise, were the dainty little Pitcher Plants and other material which Mr. Lunt had so artistically placed among his excellent Grapes. Everything was well chosen and well placed. The decorations did not overpower the Grapes in any way, neither were the Grapes—as Grapes—one whit improved by their presence.

The same may be said of the other exhibits in this class, with the exception of one or two, which contained plants a trifle too large in size. But there is a remote possibility of Mr. Taylor's example of an imaginary competition becoming an actual fact at some time, and prizes intended for Grapes would thus go to decorations. To prevent this absurdity I would cease giving points to the decorations, but insist on their presence, as was done at Shrewsbury. Exhibitors might be trusted to put suitable decorations, and there would be nothing to prevent the fruit from obtaining its proper position. Perhaps at some future date someone will discover a more artistic way than we have at present for exhibiting collections of ten or twelve dishes of fruit; something is wanted that would take the sameness off; the eye gets tired of so much earthenware and tablecloth at these large shows.

I have not followed closely the notes on the Muscat question, but on referring to the schedule it seems to me the words "Canon Hall Muscat" were inserted by accident instead of "Muscat of Alexandria." No one who knows these two varieties would consider them synonymous; they are, in fact, perfectly distinct. But Bowood, Tynningham, and Charlesworth Muscats are practically the same as Muscat of Alexandria.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

CURE FOR OIDIUM IN VINES.—We learn from the "Revue Horticole" that to M. Uchet, a Vine grower of Chapareillan (Isère), belongs the credit of an important discovery—namely, the cure of oidium in Vines by substituting carburate of calcium for the sulphur treatment, which he has found ineffectual after repeated applications. The carburate was reduced to a fine powder and then sprayed upon a Vine trellis 220 yards in length after this had been well syringed with pure water. The immediate effect of the carburate on the water was the formation of acetylene gas, the effervescence from which rid the Vine of the oidium in a single operation. Neither burn nor check to growth was found to result, and eight days afterwards, convinced of the efficacy of his discovery, M. Uchet applied it to his other Vines with great success.—("La Semaine Horticole.")

THE YOUNG GARDENERS' DOMAIN.

SALVIAS.

CONSIDERING the ease with which these plants can be grown, it is a pity they are not more frequently grown, as for bedding and the conservatory, particularly the latter, they make a brilliant display before the Mums are fully in; they are excellent. For bedding *S. patens* is probably the best. To show off the full beauty of the plant it needs to be planted in a mass in a mixed border, where the rich blue flowers cannot fail to attract attention. The roots require a slight covering if left out during the winter, but the better and safer plan is to lift them after flowering, and store them in boxes in a cold frame. For autumn flowering we find *S. Bethell*, *S. Scarlet Queen* the best; the latter an improvement on *S. splendens*, being a stronger grower and the flower trusses much finer.

To keep a stock of these plants we select two of each variety after flowering, cutting them down to about 18 inches of the pot, and keep them on the dry side during the winter months in a temperature not lower than 45°. As the days lengthen we water more frequently, and give an occasional syringing to keep down insects. By the second week in April the cuttings are taken and inserted three in a large 60-pot, using a light sandy soil. They root easily in a pit with a little bottom heat. When well rooted they are put in a cold frame and pinched so as to assume bushy habit before planting, which is done early in June on a sheltered border, not too rich or deeply dug, without disturbing the plants. When they are thoroughly established they receive frequent supplies of liquid manure, and by keeping the plants well pinched they make excellent specimens for lifting and potting, which is done the first week in September.

By careful lifting and potting, and keeping pleasantly moist, they soon recover from the slight check, if put in a cold Peach house where they can have partial shade. By growing the plant as described we get much better results than when grown in pots. For late blooming we have the Apple-scented variety, *S. rutifolia*, a plant well worth growing if only for its sweet-scented foliage. Cuttings inserted by the end of April and potted into 32-pots, will make bushy plants for blooming in December if kept pinched and fed judiciously. As a compost we use a good strong loam with plenty of wood ashes, which suits the plants admirably.—PARVO.



FRUIT FORCING.

Vines.—*Early Forced in Pots.*—Where thin-skinned Grapes are required in March and April the house intended for the Vines will now be ready for their reception. The pots may be stood on slate shelving immediately over the hot-water pipes. Where there is convenience for a fermenting bed place the pots on pillars which will not give way under their weight, or interfere with attending to the fermenting material. Against the pedestals some turves may be placed, and the holes in the pots enlarged, bringing the turf up above these so as to be within easy reach of the roots, which will speedily follow the stimulating food with which the Vines are fed, and the weight and quality of the crop will be materially enhanced. Oak, Beech, or Spanish Chestnut leaves are the best for supplying bottom heat. Take care that the heat about the pots does not exceed 70° to 75°, supplying water only to keep the soil moderately moist, as a wet condition does not favour speedy and healthy root action.

Allow the canes to fall into a horizontal position over the fermenting material until they have broken, but do not permit them to rest upon the moist and warm bed. Syringe the paths, walls, and canes two or three times a day, but sufficiently early for the last time each day to allow of the canes becoming fairly dry before nightfall. Maintain a temperature of 55° at night, and 60° to 65° in the daytime, with a free circulation of air at and above that temperature, and close early in the afternoon.

Succession Houses.—Push on the pruning as soon as the Vines become clear of foliage, also the cleaning and whitewashing, carefully cleansing the rods with soft soap and water before dressing them with an insecticide. This will be all that is in most cases necessary, few growers now practising the old-fashioned process of peeling, scraping, and painting with a pigment of clay, soot, sulphur, and other substances. Where insects, however, have a strong hold on the Vines, it is absolutely necessary to remove the loose bark, but do not injure the living rods, and eradicate the enemy by washing thoroughly with an insecticide. Some strong mixtures, especially those compounded of oils and fats, are more injurious to the Vines than the peeling, and they should be avoided, unless used with an equal weight of dry pulverised clay and sufficient water to form a cream readily applicable with a brush.

Midseason Houses.—Any Grapes that are still on the Vines may be cut, as they will keep fresh in bottles of water in a cool, dry room. The Grapes should be cut with all the wood that can be spared for insertion into bottles of rain water, removing the foliage, but not shortening the wood that has been formed beyond the bunch. The Vines should then

have the laterals shortened or removed, and the growths generally cut back so as to plump the pruning buds. It must be done gradually in the case of vigorous Vines which are disposed to make a late growth, checking their propensity by free ventilation constantly, and where the wood is not brown and hard the heat should be turned on by day. The Vines will derive great benefit from the exposure to the weather so long as it continues mild, guarding against a sudden chill by drawing up the roof-lights or closing the house when the nights are likely to be frosty or wet.

Late Hamburg Houses.—The atmosphere in which thin-skinned Grapes are hanging cannot be too carefully attended to, as the berries are very susceptible to injury from excessive moisture, while if kept too dry and warm they are liable to shrivel. A gentle movement of the atmosphere will prevent the deposition of moisture on the berries, and when ventilation cannot be given a little warmth in the hot-water pipes will keep the air in motion, and the water will be condensed on the glass so long as the external air is cooler than that of the house. A steady temperature of 50°, with a little warmth in the pipes, and liberal ventilation on fine days, will suit the Vines during the fall of the leaf, when, unless the house is well adapted for keeping them, the bunches may be cut, bottled, and placed in the late house or a cool dry room. The border must be kept fairly moist, or the Grapes will shrivel even while the leaves are on the Vines.

Late Houses.—Muscats, as a rule, have done well this season, being fine in berry, high in colour, and excellent in quality. This is the outcome of thoroughly ripened wood and stored matter from last year as well as good management in the current season. The Grapes will need a temperature of 50° to 55° until the leaves commence falling, and moisture must be kept from becoming stagnant by a judicious admission of air. Where the Vines have lost their leaves a slight shading may be necessary to prevent the berries becoming brown, which is not a tinge esteemed at table or in the market. Only where the panes of glass are large and the weather bright is this advisable, and a single thickness of pilchard nets drawn over the roof-lights will be sufficient shading. The thick-skinned Grapes will still improve in finish and quality, being accorded a temperature of 50°, and air admitted freely above that on all favourable occasions.

Though the berries keep well enough in houses where the outside borders are exposed to the weather, it is only when they are high and dry, for a cold saturated soil is not without its effect banefully on the Grapes as well as the roots of the Vines. To prevent such condition, the borders should be covered with lights or something that will throw off deluging rains and snow. Give daily attention to the removal of ripe foliage as it parts from the Vines, keeping the house clear of plants requiring water, and thoroughly sweet and clean, removing all faulty berries as they appear.

THE KITCHEN GARDEN.

Asparagus.—Now that the tops are fully matured, and the leaves rapidly falling, the stalks should be cut down to within 3 inches of the ground, and these with rubbish and weeds generally be removed. Whether the beds shall be manured at the present time or not ought to depend upon circumstances. In the event of the soil being naturally clayey and retentive of moisture, a heavy dressing of solid manure would do more harm than good, as it tends to keep the ground colder and wetter than is good for Asparagus roots at rest. For lighter, warmer soils, which, it should be added, best suit Asparagus, the dressing is correct, covering the beds with 3 inches of half-decayed manure.

Mushrooms.—Mild weather, obviating the use of fire heat, is all in favour of Mushroom beds in houses, and is particularly favourable to those in unheated structures generally. The warmth that suits Mushrooms best is the natural heat in the beds, and this should be conserved as much as possible, though not to the extent of unduly raising the temperature. When the trial stakes kept thrust in the beds show a marked decline in the temperature a covering of 6 inches of soft strawy litter should be at once applied, this answering the double purpose of conserving heat as well as moisture. An occasional gentle but thorough watering of the beds in bearing with tepid water is far better than daily syringings. Any that have already borne a crop and are on the dry side should be thoroughly moistened with water impregnated with salt, 2 ozs. to 3 gallons of water answering well.

Forming New Beds.—The manure ought to be well prepared by fermentation, the aim being to get rid of rank heat and foul gases without robbing the manure of all power of further heating. Manure allowed to attain to a "white heat" in the centre is practically spoilt for Mushroom beds. When used it ought to smell sweet, be just moist enough to bind, but not so wet as to exude moisture when squeezed in the hand. If manure is scarce and Oak leaves plentiful, instead of mixing the two form a solid hotbed 2 feet deep with decaying leaves, and surface this over with prepared horse droppings to a depth of 4 inches or more. Insert lumps of spawn in the usual way in the manure, and either soil over at once or do this three days later. The genial and not too drying warmth of cellars suit Mushroom beds at this time of year as well as in hotter weather, and beds may be formed in snug unoccupied stable stalls and thatched sheds. Always cover these beds heavily with strawy manure.

Rhubarb and Seakale.—If extra early supplies of these are required, forcing must commence soon. Top-growth commences best after the roots have been subjected to frosts and cold frosty winds, and it is advisable to expose the requisite number of clumps of Rhubarb and roots of Seakale to what frosts or frosty air may be going during the next week or longer. Mild hotbeds of leaves and manure are better for forcing both crops than dry fire heat, while progress at this time of year is slow in

Mushroom houses, unless a higher temperature is maintained than is good for the Mushrooms.

Weeds.—Where the hoe was not plied sufficiently often to keep down weeds during the summer these quickly seeded, with the result that the ground is now green with a late crop. Frosts may cut down the more tender of them, notably Groundsel, but this ought not to be waited for. In very dry weather, such as experienced during the first three weeks in October, the ground where it cannot be dug may be hoed lightly, the weeds raked off and wheeled away, but in many instances all may be dug or turned in.

Slow Fires.—The dry weather experienced this autumn ought to have been taken advantage of for converting accumulations of rubbish into a valuable heap of ashes, charcoal, and charred earth. This material, commonly known as "burn bake," is admirable for mixing freely with soil for fruit trees, Carrot and other root-crops, and for surface dressings generally. The start should be made with a heap of dry wood, enclosed first by heavier sticks or other wood that is of no value for other purposes, and be then practically smothered with the driest of the re-use available, cased over with soil. When the fire breaks through cover with more refuse, attending particularly to this late in the day and again in the morning.



WHICH SYSTEM GIVES THE GREATER YIELD.

BEE-KEEPERS are not slow to take advantage of any system in bee-keeping that will add to the weight of honey obtained, and it may be useful at this season to make a comparison between the various systems tried, and see how far we are able to improve on them in the future.

In the first place we may explain how the bulk of our honey has been obtained, our aim being to obtain as large a surplus as possible with a minimum of labour. This can only be done by attending to the bees' requirements at the right time, as much harm is done by useless manipulating. Run or extracted honey has been obtained from full-sized standard frames, and also from shallow frames placed in the supers.

For honey in the comb, shallow frames and 1 lb. sections were used. We did not detect any difference in the weight of honey from the two last systems, but for various reasons we prefer the 1 lb. sections to any other, as they are in a convenient form, and quite large enough for use in ordinary establishments.

It is different, however, when we come to extracted honey. In the latter case the 1 lb. section is recommended in preference to the larger shallow frame, but for run honey we still have faith in full-sized frames of standard size. If from any reason the various stocks of bees are somewhat weak when a surplus of honey may be obtained, and it is not desirable to reduce their number, then a crate of shallow frames would be better than full-sized frames. But for full strength colonies there is no system that we have tried from which a greater yield of honey can be obtained, with the least amount of trouble, than by using full-sized frames.

WHICH IS THE MORE PROFITABLE?

A reply to the query, Which is the more profitable? is partly given in the above notes. If a greater weight of honey can be obtained from any one system, it is only reasonable to suppose that it is the more profitable. It is a well known fact that a greater weight of honey may be obtained by extracting from full sized frames than can be procured from sections, which must be left in the hive until every cell is well sealed over. If removed before this has taken place, the honey will drip from them, and they will be quite useless for packing to send any distance from home.

This will partly explain why a greater bulk of honey can be obtained by extracting, as in this case it is not necessary for all the cells to be fully sealed over. If a third, or at least one-half of the cells are capped is all that is necessary for extracting purposes. The honey in the cells will be found to be perfectly ripened.

One word of warning is necessary in extracting honey. Always extract in the morning, earlier the better. If this is done before the bees commence their daily labour in the fields, and care is taken as above advised, a much greater weight of honey will be obtained than could be secured from any other system. It is true a little practice is necessary; a beginner, however, will soon find out when the honey is in the right condition for extracting.

We often hear, and have questions about unripe honey which will not granulate, but ferment before it has been bottled many weeks. The chief cause of fermentation is unripeness. The nectar that is gathered by the bees from the flowers is placed in the combs. Afterwards it goes through several processes before being in good condition and ripe for sealing over by the bees.—AN ENGLISH BEE-KEEPER.



• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Apple Lucombe's Seedling (R. A. C.).—It is, of course, impossible for nurserymen to include every Apple in cultivation, and they therefore select what experience teaches them are most in demand. This variety is thus described by Dr. Hogg in the "Fruit Manual": "Fruit large, 3½ inches wide, and 2½ inches high, roundish and angular. Skin pale greenish yellow, strewed with dark dots and imbedded green specks on the shaded side, but bright red, which is streaked with crimson on the side next the sun. Eye small and open, set in an angular and pitted basin. Stalk short and thick, inserted in a rather deep cavity. Flesh white, firm, juicy, and pleasantly flavoured. A culinary Apple of first-rate quality, in use from October to February. The tree is a strong and vigorous grower, attains a large size, and is an excellent and early bearer." The variety was raised by Messrs. Lucombe, Pince & Co., Exeter.

Mildew on Royal George Peach Trees — Bisulphide of Calcium.—(W. D.).—This variety is very liable to mildew when grown outdoors, especially in cold districts, though we have known it to be seriously affected in warm soils and in quite mild localities. Under glass in the same district the trees were free from the fungoid pest, therefore it may be concluded that, as a rule, this excellent Peach is too tender for general cultivation outdoors. Yet there are exceptions, for we have seen the trees quite healthy in some places, the soil being of a rather strong nature, though in another part of the country we found Royal George so prone to mildew, and this so difficult to subdue, that we were obliged to uproot the trees and plant other varieties in their places. Treatment with bisulphide of calcium has a good result. It is made by boiling 1 lb. of flowers of sulphur and 1 lb. of quicklime in five pints of water for ten minutes. It should be constantly stirred while it is boiling, then allowed to settle, and the clear liquid poured off for use. The trees should be syringed with a mixture of this preparation with 100 times its bulk of water. Sulphide of potassium, 1 oz. to six gallons of water, is also effective against mildew, but when any variety of Peach does not succeed the better plan is to uproot it, and plant others which are free from the pest in favourable seasons, or easily kept so by early and mild applications, such as the time-honoured dusting with flowers of sulphur.

Fig Tree Unfruitful (Homo).—The tree that has not produced fruit during the last fifty years may be of a variety that does not bear freely the first and only crop generally borne outdoors in this country. As the tree, however, produces fruit in an incipient state we advise that a trial be made of the following practice:—Remove all the suckers that the tree throws up in large number, baring the roots carefully so as to detach the suckers by the sockets close to the rootstock or roots whence they spring, not leaving any buds. Thus the tree will be confined to one stem, and the branches should be disposed evenly and sufficiently far apart to admit light and air passing freely between them. Thin, therefore, where too crowded, yet so as to leave a successional growth to occupy any vacant space and continue the bearing parts. The stem may be of any height from 1 foot to 6 feet, all that is important is to confine the tree to one stem and not permit any suckering. The tree being freed from suckers take out a trench at a distance from the stem one-third the spread of the branches, and as deeply as the roots, cutting off all roots in the trench, and from this working under at about 18 inches from the surface towards the centre, so as to detach any roots striking downwards; the trench may then be filled in, carefully removing all cut-off roots and adding about a sixth of old mortar rubbish to the soil, making all quite firm. On the space undisturbed beyond removing the suckers supply half a pound of best chalk lime air-slaked and soot in equal parts by measure, which point in lightly, and over this spread about an inch thickness of half-decayed stable manure, extending outwards from the stem to extent of the undisturbed root radius or a little beyond. It is advisable to defer pruning the head, if necessary, until April, just before the tree commences growth, though pruning generally, in other cases, is best done early in autumn or as soon as the fruit has been gathered. The incipient Figs

now larger than a Pea or from that size to a Hazel Nut should be removed, but this is best done in September, then the tree will concentrate its forces on the other buds near the points of the growths, and also at the sides where the second crop Figs or the incipient ones have been removed. The procedure foreshown we have found satisfactory in bringing barren Fig trees into a fruitful state, both standards in the open but sheltered situation and against walls, as well as under glass, a top-dressing being given of bone superphosphate three parts and double sulphate of potash and magnesia two parts mixed, using 4 oza. of the mixture per square yard from the stem outwards to a little beyond the spread of the branches. It may be applied in autumn or in early spring as soon as winter frost has left the ground.

Soil of Vine Border (R. R.).—The soil, both samples, is of a very close and rather heavy nature, practically devoid of lime except that of bones, which seem to have been employed in the crushed state. There does not appear any grit or even old mortar rubbish, so that the roots die through lack of air or a sweet oxidised condition of the soil, this being more or less sodden and sour. We advise a dressing in the autumn of best chalk lime, air-slaked, placing on the border about half an inch thick, and after laying thereon a month or six weeks pointing it in as deeply as the roots admit. Some of the lime will be dissolved constantly and pass downwards with the water, correcting the organic acids and supplying lime for the use of nitrifying micro-organisms and for the Vines. Shortly after the lime has been applied top-dress with the mixture advised to "H. S." in this page. It is very important in such cases not to overwater, the soil now being in a wet and even approaching sodden condition, hence the loss of roots.

Muscat Flavour in Grapes (H. S.).—We consider Canon Hall retains the Muscat flavour longer than Muscat of Alexandria; but for strong Muscat flavour Chasselas Musqué carries the palm. Canon Hall is rather difficult to manage, but Mr. P. Kay of Finchley has great success with it; also Mr. J. Rochford of Turnford, who is supplanting Muscat of Alexandria with it in one large house. Chasselas Musqué has a thin skin, and is very liable to crack just as the berries approach maturity. Black Frontignan also has a strong Muscat flavour, likewise Grizzly Frontignan, which retains the musky flavour even when shrivelled. It is very liable to shanking. Muscat Hamburgh has a tender flesh and a fine Muscat flavour, but not as pronounced as in Muscat of Alexandria. White Frontignan has a rather firm flesh, yet juicy, very sweet, rich, and with a strong Muscat flavour. We consider it the most serviceable of the Frontignans. If you give the Vines now a top-dressing of dissolved bones, dry and crumbling, three parts, and double sulphate of potash and magnesia two parts, mixed, using a quarter of a pound per square yard, and pointing in lightly, you may find the colour and the quality much improved another year.

Produce for Market (P. N.).—We are in general accord with your views in increasing the supply of what you find profitable. The point to aim at is always to have what is wanted at the time it is required. If once a customer goes elsewhere it is by no means certain he will come back again. Purchasers, as a body, go where they feel sure they can obtain at once what they need, and if they have many letters of "regret I cannot supply," will, and must, go elsewhere, or they would lose their opportunities. You will be able to gauge future requirements by the tone of present demands. A grower of what you are producing, but with much less than your experience, when he started a dozen years ago, with very small capital, has now a large and lucrative business. We also know of two amateurs, who were engaged in office work, and retained it for two or three years, who started in a small way in growing produce for sale, and by sound judgment and good business methods had eventually to relinquish their original calling, and are now in a prosperous state. One of these gained his knowledge on gardening by attending lectures five years ago. He followed almost the exact course that you propose. As soon as he raised money enough he erected a plain, cheap, yet useful span-roofed house, and now has five structures, each 100 feet in length, on land leased for twenty-one years. The other, who started ten years sooner, has a freehold of his own, and ten times more glass than just indicated. Both of them continued earning wages till their growing trade compelled the resignation of their positions, the one as a clerk, the other a commercial traveller. We think you have as good a chance as they had, provided your business capacity is equal to your cultural ability.

Names of Fruits. — Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one

of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (*F. G. G.*).—1, Bramley's Seedling; 2, Roundway Magnum Bonum; 3, Warner's King; 4, Blenheim Pippin; 5, Golden Noble; 6, Beauty of Hants. All the specimens were excellent and thoroughly well packed. (*M. L. H.*).—1, Golden Winter Pearmain; 2, Court Pendu Plat; 3, Gascoyne's Scarlet Seedling; 4, Ribston Pippin. (*S. S. B.*).—1, Lady Henniker; 2, Golden Spire; 3, Newton Wonder; 4, Fearn's Pippin. (*G. T.*).—1, Frogmore Prolific; 2, Calville St. Sauveur; 3, Lord Grosvenor; 4, Betty Geeson; 5, Beurré Bosc; 6, Beurré Diel. (*M. M. R.*).—1, Hanwell Souring; 2, Bedfordshire Foundling; 3, Tower of Glazius; 4, Flower of Kent; 5, Cellini; 6, Lemon Pippin. (*E. M.*).—Possibly Comte de Lamy, but it is difficult to say definitely from an individual specimen, as they vary so considerably. (*A. W.*).—Beurré Superfin; Apple unknown.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*G. C.*).—Probably *Chrysanthemum* (*Pyrethrum*) *uliginosum*, but cannot say definitely in the absence of leaves. (*M. M.*).—1, *Cupressus Lawsoniana patula*; 2, *C. Nootkatensis*; 3, *C. Lawsoniana erecta viridis*; 4, *C. Lawsoniana*; 5, *C. Nootkatensis argentea variegata*; 6, *C. Lawsoniana alba spicata pendula*; 7, *Thuja occidentalis*. We only undertake to name six specimens at once, and have, therefore, confined our attention to the Conifers. Send the others again and we shall be glad to assist you. (*A. W.*).—*Crotons* can only be correctly identified by comparison in a large collection.

COVENT GARDEN MARKET.—NOVEMBER 1ST.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3 0	5 0	Melons each	0 6	1 6
Cobnut, per 100 lb.	70 0	0 0	Peaches, per doz.	8 0	6 0
Figs, green, per doz.	1 0	8 0	Pears, Californian, case...	6 0	9 0
" French, per basket...	1 6	8 0	Pines, St. Michael's, each	1 0	6 0
Grapes, black	0 6	8 0	Walnuts, fresh, bushel ...	20 0	0 0
Lemons, case	14 0	20 0			

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	2 0	8 0	Lettuce, doz.	1 8	2 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb.	0 6	10
Beet, Red, doz.	0 6	0 0	Mustard and Cress, punnet	0 2	0 0
Cabbages, per tally ...	7 0	0 0	Onions, bag, about 1 cwt.	4 0	4 6
Carrots, per doz.	2 0	8 0	Parsley, doz. bunches ...	2 0	4 0
Cauliflowers, doz.	2 0	8 0	Potatoes, cwt.	2 0	5 0
Celery, per bundle ...	1 0	1 3	Shallots, lb.	0 8	0 0
Cucumbers, doz.	2 0	4 0	Spinach, per bushel...	2 0	4 0
Endive, doz.	1 6	2 0	Tomatoes, per doz. lbs. ...	2 0	5 0
Herbs, bunch	0 2	0 0	Turnips, bunch... ..	0 8	6 4
Leeks, bunch	0 8	0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8 0	10 0	Lilium Harrisii, 12 blooms	6 0	8 0
Asparagus, Fern, bunch...	2 0	2 6	" lancifolium album ...	8 6	4 6
Carnations, 12 blooms ...	2 6	3 6	" " rubrum ...	8 6	4 6
Cattleyas, per doz.	12 0	18 0	" longiflorum, 12 blooms	6 0	8 0
Chrysanthemums, white			Maidenhair Fern, doz.		
doz. blooms	6 0	9 0	bunches.	6 0	8 0
" yellow doz. blooms	5 0	8 0	Marguerites, doz. bunches	3 0	4 0
bunches var.	0 6	1 6	Mignonette, doz. bunches	4 0	6 0
Eucharis, doz.	6 0	8 0	Odontoglossums ...	5 0	7 6
Gardenias, doz.	4 0	6 0	Pelargoniums, doz. bunches	8 0	12 0
Geranium, scarlet, doz.			Roses (indoor), doz.	6 0	8 0
bunches.	6 0	12 0	" Red, doz.	6 0	8 0
Lily of the Valley, 12			" Tea, white, doz.	8 6	6 0
sprays	18 0	24 0	" Yellow, doz. (Perles)	4 6	6 6
			Smilax, bunch	8 0	4 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	8 0	Ferns, var., doz.	4 0	18 0
Aspidistra, var.	18 0	8 0	" small, 100	4 0	8 0
Aspidistra, specimen ...	15 0	20 0	Ficus elastica, each ...	1 6	7 6
Chrysanthemums, per doz.	6 0	12 0	Foliage plants, var., each	1 0	5 0
Oretons, doz.	18 0	8 0	Lycopodiums, doz.	3 0	6 0
Dracena, var., doz.	12 0	8 0	Marguerite Daisy, doz. ...	10 0	18 0
Dracena viridis, doz. ...	9 0	18 0	Myrtles, doz.	6 0	9 0
Erica various, doz.	8 0	6 0	Palms, in var., each ...	1 0	15 0
Buonymus, var., doz. ...	6 0	18 0	" specimens	21 0	68 0
Evergreens, var., doz. ...	4 0	18 0	Physalis, per pot	2 0	4 0

TRADE CATALOGUES RECEIVED.

H. P. Kelsey, Boston, Mass.—*American Plants.*

G. W. Piper, Uckfield, Sussex.—*Roses.*

W. Watson & Son, Clontarf Nurseries, Dublin.—*Roses and Trees.*



THE HOP CROP.

THERE is a tendency among many of us to be local. We know all there is to know about the crops in our own district, but we are too superficial to bother ourselves about the doings of our far distant neighbours. They may fail or prosper, it seems no concern of ours; our little world engrosses us, to the exclusion of others. This is very narrow-minded, for in a great measure the interests of all British farmers are one. The Scottish Potato crops affect us much. Without the Hop crop our good Barleys are worth less money, and so on through all the details of farm life.

The failure or non-failure of the Turnip crop is soon seen in the stock markets, and fortunes have been made before to-day by the judicious buying of sheep in a crowded market by the man who in a far distant county had Turnips enough and to spare. It is well, though, first to see that there are Turnips enough and to spare. We know a case this week where large sheep purchases have been made, and all at once the Swedes have succumbed to smother fly, and the fields are practically bare in patches of acres.

To many of our readers the Hop crop is *par excellence* the crop of the year. By it they stand or fall, and a wide-reaching paper like this which did not touch on that crop would be in fault.

From the agricultural returns we find that the total acreage of Hops is 51,843, as against 49,735 in 1898. The crop is thus distributed:—

Kent	31,988, as against 30,941
Hants	2,319, as against 2,263
Hereford	7,227, as against 6,651
Worcester	3,788, as against 3,567
Surrey	1,388, as against 1,313
Sussex	4,949, as against 4,829
Suffolk	4, as against 3
Gloucester	42, as against 40
Monmouth	0, as against 2
Salop	188, as against 126

Two counties appear just to have made a start—evidently someone of enterprise lives there. We wonder if these new plantations will keep free from all the ravages of insect life which yearly afflict the other growers in the old Hop districts.

We often think that in totally new soil and perhaps under slightly different cultivation, disease may be successfully combatted for many years. From the "Brewers' Journal" we gather many details of this year's Hop crop, and surely we go to the right source for our information. The ingathering of the Kent and Sussex crops was finished by the end of September, in later districts the work was not completed till the first week in October. The aggregate yield will be much heavier than was generally anticipated, even by those who always look on the bright side.

The average of the various parishes has been large. The returns vary from 13 up to 17 cwts. per acre. The whole of Mid-Kent is estimated at 16 cwts. per acre, Sussex 14 to 15, the Weald of Kent 14, East Kent about 13. Surrey and Hants will not work out to so good an average as the other divisions, but of Worcester and Hereford it is estimated that the yield is considerably in excess of ordinary production. There is a feeling that the crop of this year may reach something like 570,000 to 580,000 cwts., which will be the biggest yield since 1894, when the official estimate was 636,846 cwts., the produce of 59,535 acres, being about 7000 or 8000 more acres than this year's crop. Since the year 1886 only once has the average per acre

been returned at over 10 cwts., but we think this year we may safely reckon on an average of 11 cwts.

The quantity is assured, but we cannot speak so cheerfully about the quality. The majority agree that the quality is disappointing, so many samples that can only be put down as medium, or worse still, inferior. Of course where the quality is only medium it is hopeless and indeed foolish to expect top prices. Foreign Hops (or substitutes) are obtainable, and the English grower must be content with fair market value, trusting that the quantity he has to sell will, in some measure, recoup him for lower prices.

There has been another factor in his favour this year. We have heard in past years of the terrible expense incurred by the frequent washings and dressing that were obliged to be used on the Hop vines. Certainly for six years, if we go back no further, the outlay has been enormous, and yet it was absolutely necessary were any crop to be gathered at all. In many cases these expensive processes had to be repeated, and sulphur had to be used in great quantities to check mould. This year we find there has been little or no outlay for these "extras," as we may call them. There has simply been the ordinary working expense to reckon with, so that after all, even with only moderate prices, the Hop grower has great reason for contentment. At one time the crop promised great things; that promise, like many another, failed of fulfilment.

When on the subject of the Hop crop we just turned to the Journal of the Royal Agricultural Society for the current quarter. Of course, as this year's Show was at Maidstone, this great industry of Hop growing receives comment. The writer says, "The difficulties and expenses of Hop growing have been increased in recent years by the regularly recurring attacks of aphid blight, which make it necessary to 'spray' or syringe every Hop plant, every branch and leaf, with quassia and softsoap compounds three or four times, and frequently more often in each season. . . . The fear of mould or mildew caused by the fungus *Podosphaera castagnei* also entails the application of sulphur twice or thrice, or even more often, in July or August."

This must be a serious business, and we see there were prizes offered and awarded for the best machine calculated to thoroughly spread the spraying mixture over every part of the plant. The fine dry summer helped on the growth of the Hops. Like all other vegetation, they are more liable to attacks of disease when the growth has been slow and the plants lacking in vigour. Once let them get fairly away and escaping the late frosts they have a much better chance of resisting all foreign invasion, be it aphid or mould.

WORK ON THE HOME FARM.

Splendid autumn weather provides every opportunity for the farmer to get forward with his work. Wheat sowing, which looked at one time like being very late, will now be completed well up to time, but we fancy that there will be a decreased acreage notwithstanding, for Oats have been selling better relatively than Wheat, and Wheat straw is now too plentiful and cheap to be a factor worth considering.

Potato lifting is nearly over, and though labour has been dear it has been sufficient, though we hear of grave difficulty in other districts. Crops are lighter than was expected, and vary very greatly, even the same variety ranging from 3 tons to 12 tons per acre, and on similar land. The Up-to-Date is distinctly the champion sort.

Young sheep are healthy now, and appear to have got over the critical time, but there are very many small puny animals which must be a long time in coming to maturity. They are marching over the Turnips at a most alarming rate. We hear of 300 sheep eating 5 acres in a week. There must be few roots to spare for the cattle, and substitutes must be found. We heard a shrewd farmer declare the other day that he would rather have 1 cwt. of treacle than 2 tons of Mangold, which would be putting the value of the latter at less than 3s. 6d. per ton.

If this view be correct, treacle is the article to buy. It should be used to flavour chaffed straw, and should be mixed first with boiling water and then with a larger quantity of cold. The ration for each day is better mixed the day before. Dried grains and malt culms will be valuable to use for a similar purpose, but they should either be steamed or steeped in a large tub overnight, and mixed with the cut straw to-day for use to-morrow. These processes require appliances, space, and trouble, but they must be provided.

There are people who look upon the root crop as a superfluity and as non-progressive. Well! there must be many thousands of fools amongst farmers, to take so much to heart the loss of so little—if it is little.

The advertisement of the first of the local ploughing matches reminds

us of the necessity to see that the ploughing down of fallows is done properly. No operation on a farm requires more careful attention.

We are glad to see that plashing and scotching competitions are being added to the ploughing; as instruction classes have been a failure perhaps prizes may be more attractive. There should be competitions restricted to men under thirty.

HOW TO DETECT FORMALINE IN MILK.—Formaline has of late been somewhat extensively used as a preservative both for milk and butter. Like boracic acid it is objected to by many on the ground that it acts as an irritant. When there is reason to suspect its existence in milk, its presence can, says a contemporary, be readily detected by the addition of a little sulphuric acid and ferric chloride; if there is any formaline present this mixture will give the milk a purplish violet colour.

BARLEY COMPETITION.—Messrs. Webb & Sons, Wordsley, Stourbridge, offered valuable prizes for the best bushel of their varieties of Barley, grown with the aid of their special manure. The competition was keen, whilst the samples exhibited were of very high quality, and testified not only to the value of seed and manure, but also to good cultivation. List of awards: Class 1, for Barley grown in any part of the United Kingdom: Champion prize, cash or plate, value £25—Mr. J. E. Kimber, Southmoor House, Abingdon (Webbs' Golden Graia); Reserve—Mr. William Shears, Lees Farm, Pyrford, Woking (Webbs' Burton Malt). Class 2, for Barley grown in the counties of Salop, Stafford, Hereford, Worcester, Gloucester, or Warwick: First prize, cash or plate, value £15—Mr. Frank Horne, Bobbington, Stourbridge (Webbs' Kinver Chevalier); second prize, cash or plate, value £10—Mr. A. Ernest Day, Orchard Hill, Stratford-on-Avon (Webbs' Kinver Chevalier); third prize, cash or plate, value £5—Mr. Albert E. Day, Clifford Bank, Stratford-on-Avon (Webbs' Kinver Chevalier).

GOLDFINCHES AND THISTLES.—In many parts of the country, just at this season, when Thistle seed ripens and is spread by the breeze to reproduce its kind far and near, the bird-catcher may be seen practising his nefarious craft. The beautiful goldfinch is his game, although a bullfinch does not come amiss. With his twigs, thickly dressed with birdlime, fixed on the top of some fence, and a decoy bird caged to lure its wild fellows to the twigs, the stock-in-trade is complete. And so thousands of the most useful and beautiful of our feathered friends are ruthlessly captured to spend their days in cruel imprisonment. There are no other birds in our land that eat so much Thistle seed as goldfinches, which may be seen in broods flying from plant to plant, eating away at the seed quite freely from the time the first down-like thistle heads are seen until the approach of winter, when the down has all been scattered or devoured. Thistles are becoming a plague of magnitude in the land. And ought there not to be a law made preventing the taking in any way or at any season the bright little goldfinch, that in no way does harm, yet does infinite good, not only in consuming weed seeds, but in beautifying our landscape with its charming colour and sweet notes?—"Rural World."

DETERMINING THE AGE OF A HORSE.—Before we can determine the age of a horse by the teeth it is necessary that we have a general understanding of the form and structure of the teeth. The horse has two sets, the temporary and the permanent. The temporary teeth of both upper and lower jaws begin to fall out at about the age of three years; first, the two centre incisors of the lower and upper jaws, the next adjoining one on each side come out at about four, and the corner incisors fall out at five. Now, the permanent teeth fill these places as fast as made vacant. These permanent teeth in the crown have a depression or cup three lines deep, or one-fourth of an inch. But the cups of the upper incisors are six lines, or one-half an inch deep. The teeth wear off with a certain rate or regularity, one-twelfth of an inch per year, therefore the lower two middle would be worn smooth at the age of six, the next two at the age of seven, and the lower corner ones at the age of eight. The upper incisors are six lines deep, and therefore the upper two middle incisors would be worn off smooth at the age of nine, the next adjoining one at ten, and the upper corner ones at the age of eleven. Thus all are smooth at the age of twelve. After the age of twelve there is no certain rule that will apply.—A. T. KINSLY (in "American Agriculturist").

ROPY MILK.—Our friends, the bacteria, have to bear the blame for everything now-a-days. Years ago nearly all the leading dairy authorities agreed in attributing the peculiar viscous condition sometimes assumed by milk, and known by the popular name of ropiness, to the ill-health of the cows, or to the consumption of some injurious herb. Recent research, however, has gone to show that this ropiness is due, not to either of these causes, but to the presence of a bacillus, to which the name of *Bacillus lactis viscosus* has been given. Like most other disorders caused by bacteria it is very liable to communication to fresh milk—so much so, that if cans in which milk has once become ropy are used for the conveyance or storage of other milk, the latter is liable to become affected. The only safe preventive in a case of this kind is a thorough scalding of the vessels and their exposure to the sun for several days if they can be conveniently spared from use in the dairy for that length of time. Investigations into this subject were carried out some time ago at one of the American Agricultural Experiment Stations, and the researches there made went to show that the bacteria was also liable to get into the milk through the medium of water. In some cases it was found that the bacteria gained access to the milk from ponds in which water was allowed to stagnate, and from which the bacteria got transferred to the milk through the medium of mud attached to the cows' udders.—("Farmers' Gazette.")

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Journal of Horticulture.

THURSDAY, NOVEMBER 9, 1899.

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THE PLANTING SEASON.

BRITAIN seems now to have entered upon a period of almost unparalleled activity, and while thousands of her gallant sons are fighting in grim earnest for the cause of their "kith and kin" in a far off land—a land of past mysteries and future promise—the factories, dockyards, and warehouses in "the old country" resound with the rattle of machinery and the toil of busy hands; work in plenty is to be found on all sides for those who will work. Horticulturists are perhaps not so greatly affected by these stirring times as those engaged in other callings, but even they share to some extent in the general activity, for it is an undoubted fact that when the great industries of any country experience a wave of prosperity, the majority of trades, businesses, and professions receive great impetus. In one way at least horticulture has felt the activity of the times, for good workers are more difficult to obtain than they were a year ago.

The planting season has come once more, and signs are not wanting that it will be a busy one for all concerned, as orders for fruit trees have this season been particularly numerous. In addition to those who take up fruit growing as a commercial speculation, there are thousands who plant a few trees, or even an acre to serve as a hobby, as well as supply their own wants. The trade in shrubs has also reached gigantic proportions, and although the last two years—on account of the mild winters experienced—have not been busy ones in regard to shrubs sold in pots, yet much planting has been done and a great deal is contemplated this season. Evidently some of the money made by manufacturers and their employes is finding its way into the pockets of nurserymen, who may look forward to a busy time should the weather prove favourable.

Few seasons have opened so favourably for planting, as the ground has been thoroughly moistened with copious rains. The soil is yet warm with the reserved heat of summer; the absence of sharp frosts, and the surface dryness of the land form a combination of circumstances which should

gladden the heart of the intending planter. Those who are wise will grasp every opportunity of pushing on such work, as there can be no question that trees and shrubs planted under favourable conditions during autumn make far better progress in the following summer—especially if it prove a dry one—than do those planted in spring. Even if root action does not begin till the latter period, the soil becomes thoroughly settled about the roots, wounds heal, and activity begins earlier than with spring-planted trees.

During mild weather in autumn and winter the roots of neither deciduous nor evergreen trees are in that complete state of rest as some would have us suppose; this I have frequently proved, and others can easily do so too. I have at various times when Roses, fruit trees, and shrubs have been received from a nursery, adopted the time-honoured practice of "laying them in by the heels" till an opportunity for planting them occurred. Sometimes this did not come for several weeks after, and on removing them from the soil numbers of active white roots have been found. How, then, can the perfect resting theory be upheld? When sharp frosts come, and the ground is as hard as adamant, rest is a natural result, but whenever mild periods occur, if of sufficient duration to raise the temperature of the soil to a given point, then I believe a slight amount of activity begins, the solidified sap becomes liquid again, and to some extent begins to flow. Perfect rest in regard to both the circulation of sap and activity of roots is only brought about by continued severe weather. The bud-swelling which may often be noticed during mild weather in winter and early spring fully corroborates this opinion. Although it is not wise to plant at midwinter when the land is cold and wet, the mild dry periods which frequently occur should be taken advantage of by all who have much planting to do, for it is exceedingly provoking to let an opportunity slip by, and afterwards find that bad weather prevents the work from being done till late in spring.

The planting of standard fruit trees on grass seems to be as popular as ever, doubtless because it is an inexpensive form of fruit growing after the initial outlay, and pasture brings in a regular return when the fruit crop fails. In such cases there is nothing like giving such strong growing varieties as Bramley's Seedling and Warner's King plenty of room. From 30 to 40 feet apart is a suitable distance, the trees then have abundant space to develop, and the herbage beneath is almost as good as that from an open meadow. The mistake often made in the planting of grass land is to act on the principle of "spoiling the ship for the proverbial hap'orth of tar." Holes a couple of feet in diameter are useless under such circumstances; trees which are to stand for half a century are surely worth making great preparation for, and planting well. Those who will take the trouble to prepare stations 5 or 6 feet in diameter, and 2½ feet in depth, will in the end be well repaid.

When the land is light and by no means rich, after removing the soil to a depth of 2 feet the subsoil should be broken up and good farmyard manure freely mixed with it. This will be too far from the roots to cause rank growth while the trees are young, but in after years, when they are carrying heavy crops, the trees will reap great benefit from this storehouse of food. In good deep loams no addition to the soil is needed; but the cultivator must learn to distinguish between such, and those which are naturally poor—for in the latter some stimulant is necessary to enable the trees to make clean free growth at the start, without which large healthy trees cannot be produced. It should be borne in mind that these remarks about manuring apply to trees planted on grass or in fields; in well cultivated gardens manure is never needed at planting time, except as a surface dressing.

The important details of removing the points of all roots, spreading out those retained as the planting proceeds, bringing some near the surface, and the avoidance of deep planting, are matters which have been so often fully dealt with in the pages of the *Journal of Horticulture* that I need not enlarge upon them here. When trees are planted on heavy land the extra trouble of placing a layer of rough material—stones, broken bricks, or anything of a like nature which can be conveniently obtained—in the bottom of the holes is well repaid. In

such cases the tree should also stand slightly above the ground level, and have mounds of soil formed around the roots. Stiff soil in low situations needs draining before fruit trees are planted, as they never make satisfactory progress when water stagnates about their roots.

When mixed fruit plantations are formed Apples, Pears, and Plums ought to be planted as standards, and Gooseberries, Currants, and Raspberries employed for filling the remaining space. This plan is largely adopted by the Kentish fruit growers, and it has the advantage that in no season is the entire crop a failure, for when the standards carry only a scanty crop one or other kind of bush fruit is invariably prolific, and this fact must always have great weight with those who plant with a view to profit. Among Apples and Pears, such moderate growers as Worcestershire Pearmain, King of the Pippins, Cox's Orange Pippin, and Scarlet Nonpareil, Marie Louise, Jargonelle, and Clapp's Favourite, 20 feet apart is a suitable distance to plant when bush fruits are arranged between. The stronger growers ought to be fully 30 feet apart.

When an entire plantation is formed of Apples, bush trees should, I think, be given the preference, as the trees are easily managed, the fruit suffers less from damage by winds than that grown on standards, and is, moreover, much more easily gathered. Trees on the broad-leaved Paradise stock if planted 9 feet apart produce fine fruit, and when a full crop is obtained the yield per acre is very large. For a year or two after planting the spaces between the trees can be cropped with vegetables. The advantage of this system is that the vegetables bring a fair return during the first season, and continue to do so till the Apples begin to bear.

After all that has been written upon the subject, the stern fact still remains that too small a proportion of late Apples have been planted. Difficulties of storing for a long period may, perhaps, have something to do with this, but those who have the necessary capital and enterprise will assuredly in due time reap their reward if they take a bold course and plant late Apples largely, for though the markets are often glutted with early and midseason sorts, in winter and spring good late ones are always in demand. The following are a few grand varieties for the purpose which will, to use a hackneyed expression, take a lot of beating:—Culinary—Old Northern Greening, Betty Geeson, Striped Breeding, Lane's Prince Albert, Bramley's Seedling, and Dunselow's Seedling. Dessert—Sturmer Pippin, Ashmead's Kernel, King of Tompkin's County, Reinette du Canada, Golden Knob, and Scarlet Nonpareil.—H. D.

TROPICAL FRUITS AT KEW.

To the ordinary visitor the tropical fruits produced at Kew appear to be full of interest, while to persons who have had experience with the same things abroad, they seem to have special attractions. At the present time quite a number of species are bearing crops in various stages of ripeness, whilst others have just set fruit which will ripen in spring.

In the Palm house several nice bunches of Bananas are to be seen, *Musa sapientum* and its varieties being the bearers. A plant of the Coffee in the same house is producing a quantity of green berries which will, later on, turn to a bright red. In the Mexican house the Guava, *Psidium Cattleianum*, and a variety called *littoralis*, are bearing crops of fragrant, purple and yellow fruit, respectively. Two plants of the Tree Tomato, *Cyphomandra betacea*, are bearing between them about 300 fruits just approaching ripeness. This, for a large house, makes a very ornamental specimen, being little trouble and fruiting freely, the fruit when ripe being orange-scarlet in colour and as large as a hen's egg. In the same house a specimen of the Mango is bearing about a score of oval-shaped fruits while *Musa Cavendishi* is carrying a bunch which is now about half developed.

The Papaw adds variety to the list, while a large variety of the common Lemon causes no little astonishment. The plant in question has only two fruits on at the present time, but their size is enormous. The larger of the two measures 17½ inches in circumference the smaller way, and 19½ inches lengthways, the fruit in point of size being more like a Melon than a Lemon.

In the orangery adjoining the Mexican house, Oranges, Lemons, and Limes are to be seen, while in other parts of the garden several other interesting plants, such as the Date Plum, Egg Plant, and others of economic value are on show. For people who are interested in the subjects under notice a visit to Kew at the present time would be a source of much pleasure.—K.

GARDENERS' TALKS.

Musing over many things in the quiet evenings, I have often thought what a quantity of really good practical ideas are—well, not lost generally, as I was going to write, but lost to the very people they would interest and benefit, by the neglect of that celebrated admonition of Captain Cuttle to “make a note of it.” We have, let us say, a cosy chat with some brother gardener; we interchange our ideas about the multitude of things—little things they may be—which fill our minds concerning our work. And how we can talk when we get on these subjects! In this talk we are sensible, on both sides, that we have learnt many sound truths; these truths sink into our minds, and we feel that we can never forget them, but that they will become incorporated in our everyday duties as occasion arises to put them to use. All this is good and profitable, and the mental discipline of remembering and putting the ideas in order for future use will have a broadening, steadying influence on our minds.

Or, say again, we have a leisurely saunter with our brother round his place, and as we go along we prattle about this and about that, about how well such fruits and vegetables and flowers do, and how he has found out that to get such splendid results as he can show, he has adopted such and such a way of preparing the ground, of saving the seed, of manuring, training the plants, and all the rest.

Here let me emphasise the “leisurely saunter,” because it is only in this calm, unhasty, thoughtful, contemplative state that the receptive faculties can have fair play, and be able to take in the time and scene and talk to be an after benefit. We need this to let the surrounding influences soak into our minds and make their impress a lasting one. That impetuous, gasping, “having-to-catch-a-train” look round any garden is utterly worthless in an educational point of view, and as that is the only reason for justification of the visit, it is time and money thrown away. I say, to my young friends especially, keep yourselves from this style of visiting; if you cannot do a visit profitably why do it at all?

Another thing I may notice, incidentally to my junior brethren, Avoid as much as you can that very demonstrative display of note-taking with reporter's notebook and pencil, which many very anxious, aspiring, well-meaning young men adopt. It looks no doubt fine and large and imposing, as if we were Somebody (with a large S), and doing great things, whereas we ourselves privately know we are not, and it does not deceive the old hands in gardening one bit. I know what I am speaking about, as I have been there, and I am, as country folks say, only “messurin a peck out o' my own seck.” Have a small notebook handy by all means, just to put down particular names of special plants, addresses of people, recipes, and other items of positive information; but strive earnestly to quicken your powers of observation, to be able to photograph, as it were, on your mind the different scenes and conversations at the time, and then, to make everything secure, when you get home write it all out in your commonplace book; it will be useful in many ways in after days. I am quite sure that the Editor will back up this piece of advice, and, as I happen to know, he can assure you, from his own experience, that there is “something in it.”

I was myself much impressed on this point by what was said by the biographer of the first and great Thomas Brassey, the contractor. He said Mr. Brassey never made a note about any of his great works, but that he had so educated his powers of observation, and so quickened his mental perceptions, that as he passed along overlooking his men he would note the work being done, rightly or wrongly, take in the situation, make a brief comment at the time, and, at the end of the day or visit, discuss with his foremen and managers the whole situation. This is the sort of note-taking I earnestly press upon my younger brethren, and I may say that the late Shirley Hibberd told me, in an interview I once had with him, that this was his invariable rule. He would visit a place, or attend a meeting, without making a note in writing, and then come home and write it all out.

Well, my first “talk” was on this wise. I was walking, at the end of summer, with an old friend round his place, the garden of a nobleman of our county. Though a nobleman his means would not permit of any very lavish expenditure, and therefore his gardener—an old family servant—devoted himself to working the garden as economically as possible. He worked himself with both hands and brain. In our walk we came upon as fine a bed of Vegetable Marrows as it had ever been my lot to see. I said, “What a splendid bed of Marrows you have!” “Yes,” he replied; “but you have not seen all, come closer.” I did so, and the whole bed was filled in patches with fine fat, white-topped Mushrooms. I said, “Splendid! How do you get these results together—a fine crop of Marrows and an equally fine crop of Mushrooms?” “Well,” he said, “you see it is in this way. I want Marrows and I want Mushrooms, and I want a bed to plant every year with two or three-year-old Asparagus plants, so as to keep up

my plot of Asparagus, as I take up one bed every year for forcing purposes, and therefore I have to plant a fresh bed each season. You know, also, that though my soil is good, it is rather shallow; that is, I am soon on the gravel, and so every spring I get out a 4 feet bed, say 2 feet 6 to a yard deep. I put in the bottom of it all the Broccoli and Cabbage stumps, sweepings of leaves and other garden “rummel” until I am about 6 or 9 inches from the ground level; then I put in littery manure from the stables with all the horse droppings in it and tread it all well down, afterwards returning the soil and leaving it on a ridge all down the centre. Here it stands to sweeten until the Marrow plants are ready to go out in the last week in May or first week in June, as the season is. I level down the ridge a bit and put the plants out, then I break up a few bricks of Mushroom spawn and put them all over and wait developments, with on the average as good results as you see now. I admit I do not always get the same satisfying results with Mushrooms, because, as you know”—and here a curious twinkle came into his eyes and a smile over his face—“Mushrooms are like women, a bit flighty.”

Here it may be interpolated, my friend is not a bachelor, but one of the happiest married men in the world. It only appears that the best of us like to poke a bit of fun at our womenkind, and (happy thought!) they understand and enjoy it.

“Next spring, then, you see I plant my Asparagus, and so I go on; it'll do, won't it?” said he, and I admitted it would, and that is my first gardener's talk.

My second is, A Grape-growing neighbour and I were talking of what a few wasps we had been troubled with this year, and he said, “But then you need not fear wasps to your Grapes if you'll grow Tomatoes in your vicerie.” I said, “How do you make that out?” “Well,” he said, “last year we had a wasps' nest in a hole in the wall at the top end of our vinery, just outside the lights. I could not cover the places where I gave air very well, and I said to my man, Dick, ‘We're in for it with wasps this year,’ and pointed to the nest hole, and the active wasps, ‘what are we to do?’ ‘We must watch it and see,’ said Dick, and, strange to say, though a few wasps came into the vinery, and the Grapes were quite ripe, no damage was done; they seemed to buzz about in a disturbed state, and then get out of the place as quick as they could. I said to myself, it's the Tomatoes, for we had them growing in every part of the vinery we could find room for a plant, and do you know, I am sure of it; what do you think?” I could not say anything, I had no experience, and I give this talk so that others may either agree or disagree with my neighbour's conclusion. If Tomatoes will do this, they add another attraction to their many other merits and good qualities. The question is, is it so? or is this particular gardener's experience only “gardeners' talk.”—DISLEY.

[As to the note-taking, “yes;” there are bookfuls of notes unused, while the memory is not strengthened by excessive indulgence in the practice. As to Tomatoes being scare-wasps, some gardeners say “Yes,” and others say “No,” which suggests differences either in wasps, Tomatoes, or gardeners. Mrs. Disley can get the pen and ink ready again when she wishes for a quiet evening hour by her ain fireside.]

ASPARAGUS VERTICILLATUS.

ALTHOUGH by no means a new plant, specimens of this Asiatic species are rarely seen in gardens. In several continental catalogues seeds are advertised under this name, but it is rarely that seeds of the true plant can be met with, as many of these turn out to be some other species, usually one of the least ornamental. Where the true plant is in cultivation it wins favour from all who see it, as it makes a very handsome specimen, and readily adapts itself to almost any place or condition. In the more favoured counties it can be grown outside, but in most places the shelter of a cool greenhouse is necessary.

To most of the other species it makes a striking contrast, for, whilst nearly all have light green foliage and rather insignificant flowers, this has leaves of the deepest holly green and pure white blossoms a quarter of an inch across. The flowers are produced during late autumn in profusion, and look charming dotted about on the slender, graceful branches among the dark foliage. It can be grown under various methods, as a pot plant trained on a balloon, as a border plant trained on a triangle of rough posts, or as a pillar plant. Either of the two last methods give it a more natural appearance, and are preferable to the former; but where space is limited, by careful training nice plants can be had under the first-named method.

When planted out plenty of space should be given, as it grows very quickly, making shoots 15 feet or more in length, and as thick as a lead pencil in a single season. Whichever way it is grown rich soil should be given, as, like most of the other species, it is a gross feeder.—W.

NOTES ON VINES.

EACH season brings its own work in connection with gardening, and according as Vines have been well or ill treated during the growing season, so will the work at this time of year be pleasant and agreeable or the reverse. Possibly this sentence reads rather vague to some, but experienced growers will at once see the drift of it. Take the case of a young set of Vines planted early in the year now drawing to a close. The careful cultivator has kept his eye on them daily, and has noted with satisfaction or the reverse their well-doing or otherwise. He has pinched here and tied there, ventilated, shaded when necessary, given fire heat for a day or two in dull weather, damped freely when the weather was bright, and otherwise done his best to insure well-ripened consolidated canes.

Another cultivator (?) has rushed the growth along in fair weather, and in foul has allowed them to go straight away, and under the impression that a big head of lateral growth means something approaching miraculous root efforts by the Vine, has let them take a great deal of their own way. Last June the man who believed in hurrying his Vines was in high feather, and pointed with a good deal of pride to the fast advancing rods; he put on rather a supercilious air when walking through his careful neighbour's vinery, and noticed his young friend pinching his main stems as well as his laterals, and otherwise diverting the sap to channels where it was needed.

What is the consequence? The former and wise cultivator has now little pruning to do, but the latter uses the pruning knife where his neighbour—erstwhile looked down on—was using his finger and thumb. And really the finger and thumb man has the best of it, for our hasty friend has plenty of large wood, but very little of it ripened. It is ripened the wrong way up; in fact, the laterals are as forward, or rather more so, than the main rods. The main leaves that in the former case have been busy performing their functions of sap elaboration have in the latter had to fight their way against a swarm of small ones on the lateral shoots, one Vine encroaching on another, and each of them having the best shoots very near the top ventilators.

Then along comes the hasty man with a pair of more or less murderous looking secateurs and half-prunes the laterals to strengthen up the lower eyes, a proceeding that has all the while been going on with the Vines on which the finger and thumb have been at work. But the worst of it is that the plan does not seem to answer, and the wood, instead of ripening, keeps the same greenish brown tinge, and shrivels instead of swelling; it keeps the foliage on after the colour is gone out of it, the leaves, in fact, looking as if their day had been largely wasted, and too late they were making an effort to do what they were intended to while young and vigorous. What a lesson is here for cheap moralists! I will leave readers of the *Journal of Horticulture* to moralise for themselves, however, and will now state in a few words as possible what I consider the best mode of treating young Vines from the eye, in the hope that those cultivators who agree with me will say so, and those who can show a more excellent way will give their experience also.

INSERTION OF EYES.

The eyes should be taken about 2½ inches from well ripened wood in length in February or March, the wood as a matter of course having been kept over from the previous year's pruning. Some cultivators take a thin slice of bark off the under side of the wood, the idea being to present a larger surface for root emission. It matters little whether this is done or not. Place the eyes singly in small pots (60's) and surround them with silver sand, just allowing the eye to show above the surface, the whole of the wood being hidden. Water them thoroughly through a fine rose and plunge the pots over a very gentle bottom heat. In a moist propagating house there is no need to close the cases, but if the atmosphere is at all dry it is safer to do so, as the growth from the eye will be more rapid.

Repotting should take place as soon as the growth has attained about 4 inches or 6 inches in length according as the variety is a strong or a weak one; such vigorous growers as Gros Colman and Gros Maroc may safely be left to grow 6 inches. By this time the roots will have advanced sufficiently, and this is a better test than turning the plants out of their pots, this being apt to damage the roots. Place them in 5-inch pots in a compost of clear fibrous loam and wood ashes or crushed charcoal. Burnt garden refuse is what I use, this, of course, always containing a large amount of woody matter, and it is of a gritty nature. It is important that the soil be well warmed prior to use, or a check to the roots is unavoidable.

TEMPERATURE.

No more bottom heat is necessary, but the plants must be grown in some such house as a midseason vinery or early Peach house, where atmospheric moisture is abundant, and the temperature genial. In a few weeks they will have filled their pots with roots, and may be

shifted into the 9 inch size if intended for planting or cutting back, another inch or two being an advantage if they are intended for fruiting the next season. A noted fruit grower recently told me he got some of his best bunches in this way from one-year-old Vines, and this when they were quite small, but cut-backs are more usual. Pot very firmly, and return to the vinery in such a position that the sun reaches every part of each one. Stop all laterals and sub-laterals at the first leaf, and also pinch the main stem when 3 feet high. Grow it another 3 feet and top it, again taking either the first or second shoot as leader.

In this way canes will be made 9 feet or more in length by August, and they will be well ripened. Harden them by degrees by allowing all the air possible, and by the end of the month they may go outside in the full sun, still keeping the roots moist, and if convenient plunging the pots in ashes nearly to the rims. When the Vines have been in the open air a few weeks they may be cut down to whatever length is thought desirable. Fruiting canes may be cut to about 5 feet or 6 feet, planting canes to about 3 feet, and placed in a vinery or Peach house at rest to remain for the winter.

THE BORDER.

Some time during the winter or early spring the border will be got ready, but particulars of this must be left for another note. Suffice to say that it must be made as firm as heavy ramming will make it, and all must be in readiness for planting by April. Start the Vines into growth, and when the top eyes have made shoots about 6 inches in length, most of the under ones having been rubbed out, plant the Vines carefully, shaking them quite clear of the soil, but avoiding the least injury to the fresh growing points. Spread the roots out, cover lightly with soil, giving a thorough soaking of tepid water, and mulch with short manure as far as the roots extend.

This is rather a critical time for the roots, and everything must be done to avoid a check. Treat the young Vines exactly as advised for those in their first year, stopping frequently, or, say, once for every yard of growth, tying them loosely in position, and pinching each lateral when the leaf is as large as a crown piece. They will climb an 18 feet or 20 feet rafter this season, and ripen along the entire growth. Crop them lightly the first year, and you have a house of Vines that, given due attention, should go on and improve for a great many years, until in fact the border is exhausted.—H. R. RICHARDS.

CLEMATIS IN POTS.

THE large, beautifully flowered specimens of Clematis exhibited annually by Messrs. Smith & Son of Worcester, and one or two other firms, at the Temple Show are always a great source of interest and one of the chief attractions of the exhibition. From the attention accorded these exhibits by horticulturists, one would imagine that in places where much decoration has to be done, or a large conservatory kept gay with flowers, a quantity of these plants would be grown, but it is on very rare occasions that anything of the sort is seen. Possibly the reason is that on the first trial the plants have not been a success, and so have been discarded; if that is the case the following notes may be of use to those who wish to try again or to those who are about taking up the culture of the Clematis in the way under notice.

In the first place strong, healthy plants should be obtained of any of the best varieties in early spring. As soon as growth commences they should be put in 12-inch pots, two plants being put in each. The pots must be well drained and a compost of good fibrous loam, with a little leaf mould and charcoal, and a fair quantity of rough sand used. After potting a wire balloon ought to be placed in each pot, secured in position with a good stake in the centre. They should afterwards be placed in a light, airy house, and tying must be carefully attended to as growth progresses. All flower buds should be removed the first year to encourage growth. In June if the lights of the house cannot be removed the plants may be stood outside where they will remain until frost comes, when they should be removed to a house without fire heat. Here they can remain to make their growth. If sufficient shoots have not been made to cover the balloon, the flower buds should be again removed. If the plants have been planted in good soil, in well drained pots, they will not require disturbing for several years, an annual top-dressing of decayed manure, with liberal feeding while growth is active, being all that is necessary to secure abundance of shoots and quantities of flower.

The chief reasons of failure with these plants in pots appear to be in allowing the plants to flower before they are properly furnished with shoots or strong enough, in leaving them outside, unprotected during severe frosts, by giving too much heat and too little air when they are growing, and by disturbing the roots too often. If these little points are kept in mind good plants can be had in almost any shape, which will flower well for a couple of months in late spring.—W. D.



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for recording those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries:—

- Nov. 9.—WINDSOR, ETON, AND DISTRICT.—Mr. Herbert Finch, Bank House, Eton.
- 9.—LAUNCESTON.—E. Leamon, St. Stephen's, Launceston.
- 10, 11.—DERBY.—H. J. Bell, Normanton-rd., Derby.
- 10, 11.—ECCLES.—H. Huber, Hazeldene, Winton, Patricroft.
- 10, 11.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.
- 10, 11.—SHEFFIELD.—Wm. Housley, 28, Joshua-rd., Sheffield.
- 10, 11.—ALTRINCHAM.—C. C. Moore, 22, Railway-st., Altrincham.
- 14, 15.—LEEDS PAXTON.—Wm. Smith, The Gardens, Westwood Hall, Leeds.
- 14, 15.—LIVERPOOL.—Harold Sadler, 7, Victoria-st., Liverpool.
- 15, 16.—HULL.—Edward Harland, Manor-st., Hull; James Dixon, 2, County-buildings, Hull.
- 15, 16.—RUGBY.—Wm. Bryant, 8, Barby-rd., Rugby.
- 15, 16, 17.—YORK.—Geo. F. W. Oman, 38, Petergate, York.
- 17, 18.—BOLTON.—James Hicks, Markland-hill-lane, Heaton, Bolton.
- 17, 18.—BRADFORD.—R. Eichel, Eldwick, Bingley.

MRS. LANGTRY.

I was much interested in the admirable article on page 384 relative to the cultivation of single Chrysanthemums, and as I follow almost identical methods I can safely endorse all your contributor says. I am not now writing to touch upon cultural details in the slightest degree, but to add my testimony to the value of this section for decorative purpose, for which their graceful forms and pleasing colours make them singularly effective. I am afraid that in the rush for size the smaller singles have fallen into disrepute, but much as I admire and value the immense Japanese I do not think they approach the singles for decoration. That they can be advantageously used I have often proved to demonstration, but they do not lend themselves to such a variety of uses as the single forms do. Your correspondent prefaces his cultural remarks with a selection of varieties, and I would add my appreciation of Mrs. Langtry (fig. 74), whose delicate blush-coloured flowers are amongst the most beautiful and valuable that I grow. Too many cannot be provided for my employers, who never tire of their beauty and are always ready to have them literally by the half bushel. "Practice" makes no note of the fact that the flowers of Mrs. Langtry are delightfully fragrant, and in this respect at any rate stand before the majority of Chrysanthemums in cultivation.—W. R.

N.C.S. FLORAL COMMITTEE.

ON Wednesday last, the 1st inst., a meeting of the Floral Committee of this Society was held at the Royal Aquarium, Westminster, Mr. Harman Payne occupying the chair. Several promising novelties were submitted. Miss Adelaide A. Cooper, a large Japanese of a pale rosy mauve; Mrs. Bagnall-Wild, like a pink Mrs. H. Weeks; and one or two others. Only one award was made—viz., a first-class certificate to Lady Temple, a very pretty Japanese Anemone, with several rows of ray florets and a good disc; colour, soft reddish terra-cotta. From Mr. R. Owen, Maidenhead.

RUST FUNGUS.

THERE is much in what Mr. C. Pearson says (page 382) respecting the checking, or the entire dispersal of the pest so well known to Chrysanthemum cultivators as the rust, in his remedy—begin early. More than one collection of plants have come under my notice this season that are in a poor way for producing exhibition blooms owing in some degree to the presence of rust. In conversation with a well known Chrysanthemum expert a few days since, he remarked, "This rust fungus is a useful 'tag' to hang on to when your plants are below par." What he meant was that rust covers a multitude of errors in cultivation. If plants are neglected at any stage of their growth they cannot forget the neglect, and when they are attacked with fungus it forms a capital excuse. Mr. Pearson says, Begin early. I have seen several instances this season which corroborate the wisdom of such advice, and I have seen the result of neglect.

I have also come to the conclusion that the rust is not nearly so formidable as some would have us believe. At a recent prominent exhibition the premier blooms in the incurved section were cut from plants so smothered with rust that I could hardly see the colour of the leaves through the thick coating of rust powder falling from the under side of the leaves on to the upper surface of those below. When such blooms can be cut from plants thus affected I cannot but think that too much is made of the scare. Weakly grown plants suffer much more than those that are vigorous. This, however, is a point that any cultivator is answerable for. Here again the remark "begin early" comes in. Plants well attended to from the cutting stage until the buds are formed before rust appears will not suffer to any serious extent, even if no preventive is attempted. These remarks may be a source of encouragement to many who have felt the ill effects of an attack this season. They are not made without due observation of other people's practice. My advice to cultivators is, start next season



FIG. 74.—CHRYSANTHEMUM MRS. LANGTRY.

with clean cuttings, and grow the plants vigorously, watching closely for the appearance of the pest, and at once take prompt measures, either by the removal of leaves or by dipping the plants if the leaves cannot be spared. It is not wise to denude the plants entirely of their leaves; these latter have a function to perform.—E. MOLYNEUX.

In reference to the formula of Mr. Baker of Blackrock, which was published on page 363, as an effective cure for the rust, I have journeyed to his gardens, and found them abounding in magnificent trees and shrubs. I tackled him on his cure, in response to which he ushered me into the houses, to test personally the veracity of his remarks. The collection of Chrysanthemums was exceptionally fine, and in all stages of flower development, from simple buds to fully expanded blooms. The autumn queen had been placed in a congenial

home; they were in perfect health, not the slightest trace of disease could be detected, and accepting his statement that the plants were attacked with rust their rapid recovery may illustrate the value of his cure. A grower who has been so unkindly dealt with as to have his plants infested should give a trial to the mixture suggested, and if successful in checking the development of the fungus the high road to successful Chrysanthemum growing will be rendered easier to traverse for all.—A. O'N.

ENEMIES TO CHRYSANTHEMUM BLOOMS.

CHRYSANTHEMUMS in flower are subject to some vicissitudes during their bright and attractive career. One of the greatest drawbacks to prolonging the freshness and beauty of fairly large blooms is the prevalence of damp in the structure in which the plants are housed. The evil may be counteracted by employing fire heat to drive out the superfluous moisture and give a drier and more buoyant atmosphere. When the house is heated for this purpose the ventilators ought to be kept open, provided no drip when rain falls is caused by so doing.

An exception to free ventilation should be made when fogs prevail, as it is important for this fine misty vapour to be kept out of the house as much as possible. With this end in view the heat may be increased, reducing it as soon as possible when the fog disappears. Cold, damp, dirty, searching fogs have been the cause of many blooms being spoiled when taking pot plants to exhibitions. Perhaps the actual moisture has not been the real enemy, but the deleterious elements dissolved in it from the atmosphere, especially in a large town.

When the sun shines strongly upon large blooms immediately after foggy weather some injury must be received by them, therefore it is advisable to shade the blooms. Prevention is better than cure, in fact there is no cure for damage to good blooms. Shading is adopted to minimise the extremes of light and heat acting on the tender florets.

The application of moisture to the roots must be regular, that is to say, water must not be given at stated times, but when the plants require it only. Feeding with strong liquid ought to cease when the flowers are well developed. Crowding the plants too much is also a fruitful source of injury first to the foliage, and eventually to the blooms.—E. D. S.

HIGHGATE CHRYSANTHEMUM SOCIETY.

A MEETING of the Floral Committee of the above Society took place on November 2nd, when several novelties were exhibited, and first-class certificates were awarded to Pearl Palace (incurred), exhibited by Mr. A. Jones, gardener to Miss Wyburn, Hadley Manor, Barnet; President Bevan (Japanese), exhibited by Mr. J. Brookes, gardener to W. J. Newman, Esq., Totteridge, Herts; Mons. Fatzer (Japanese), staged by the same exhibitor; Madame L. Brossillon (Japanese), also staged by the same exhibitor; Mrs. White Popham (Japanese), exhibited by Mr. J. Sandford, gardener to G. W. Wright-ingle, Esq., North Finchley; M. Louis Remy (Japanese), exhibited by Messrs. W. Wells & Co., Earlswood Nurseries, Redhill. Among other novelties exhibited were C. F. Payne (which the Committee wished to see again), Mr. T. Carrington, Sir Redvers Buller, and Miss N. Pockett.—W. E. BOYCE.

WOODHATCH, REIGATE.

WHATEVER may be the fortunes or misfortunes of others, at least Mr. Salter seems always able to present his employer, T. B. Haywood, Esq., and his friends, with a superb show of Chrysanthemums every year. This autumn he seems to have gone one better than ever, in spite of a season having prevailed that has proved to be a most difficult one to many, even the dreaded rust not having interposed any obstacle. The hundreds of plants are arranged in two long, lean-to houses, constituting splendid masses of flowers, and are exclusively in these of Japanese and incurved forms. The beautiful Anemones, singles and Pompons, grown here so wonderfully well, are this season in different houses, so that they can be cut as needed with great facility.

Mr. Salter is far from being an omnivorous exhibitor. He is usually content to show at three or four shows, and he always takes a high place. He is wonderfully strong in Japs, but seems to be even more so with incurved. The more recent introductions into this section, which, if less refined, at least give more to look at, having done so much to give to what was once the only specially show section, a new lease of life that was badly needed. Still the incurved, be they perfect in form, cannot hope to regain their once high position at exhibition tables. The splendid Japanese have ousted them from pride of place in public estimation for ever.

Of these Japs, very fine indeed a few days since were Chenon de Leché, Le Grand Dragon, Nellie Pockett, one of the best Australians; Swanley Giant, Mrs. Mease, Mutual Friend; an Australian seedling, fiery crimson reflexed, but not of great size; Mrs. J. Lewis, Annie Prevost, Lady Hanham, Charles Davis, E. Molyneux, G. J. Warren, Madame Philippe Rivoire, Pride of Madford, Lord Ludlow, Mrs. H. Payne, A. H. Pearson, C. B. Haywood, Rose Wynne, Oceana, Modesto,

N.C.S. Jubilee, Col. W. B. Smith, Lady Ridgway, Madame Desblanc, Robert Powell, Elthorne Beauty, Phœbus, Madame Carnot, Viviani Morel, and many others.

Then of incurved there were Lady Isobel, Mr. Murray, Madame Darier, C. H. Curtis, Mr. J. Kearns, Yvonne Desblanc, Duchess of Fife, Lord Brooke, Mons. Desblanc, Baron Hirsch, Globe d'Or, Ma Perfection, M. T. Martignac, Empress of India, Topaze Orientale, Violet Tomlin, Mrs. Coleman, Austin Cannell, Princess of Wales, Major Bonaffon, and C. S. Botet, new, rich golden colour.

This list serves to show how varied and inclusive of newer varieties is the Woodhatch collection. It is specially one to see, because, apart from its excellence, it is so comprehensive. Mr. Salter has always in November to show visitors a most brilliant display of single Zonal Pelargoniums in full bloom, and at present one of the finest lot of Apples any ordinary garden can boast of. Probably in all the county of Surrey there is no better furnished Apple store than is the one at Woodhatch.—A. D.

DUNCOMBE PARK.

MR. WILLIAMS has not been an exhibitor many seasons, but has made good progress during the time. It will no doubt be remembered by some readers of the Journal that he was very successful last year at York, clearing the board in the Japanese section with excellent blooms. He is this season growing about 800 or 900 plants, mainly Japanese, and the remainder singles. The incurved find little favour, their formal flowers not being so suitable for decorative purposes, for which a large quantity are required. Although large blooms with long stems are much in demand for filling vases, a great number of plants are grown in bush form for supplying smaller blooms for general decoration. There is a good range of fruit houses to accommodate the plants.

Some varieties are flowering rather earlier than usual, and several of the finest blooms will be past their best by the time the York Show takes place. This is attributed to the hot weather we experienced during the months of July and August bringing them along so rapidly. It is the usual practice to take the first buds, as Mr. Williams informs me that he has always found that he gets better blooms than by taking the second.

Amongst the best blooms open on October 28th were Lady Byron, Mrs. J. Lewis, Mrs. G. W. Palmer, Madame Gustave Henry, Mons. Chenon de Leché, Mutual Friend, N.C.S. Jubilee, and Lady Hanham. Madame Carnot was just opening, and promises some fine blooms, as also do G. J. Warren and Eva Knowles. A few of last year's new ones are being given a trial, including John Pockett, Nellie Pockett, Chatsworth, and Joseph Chamberlain, but it was rather too early to say much about them.—J. S. UPEX.

VICTORIA PARK.

HERE the Chrysanthemums, which are under the care of Mr. Moorman, are coming on apace, and must be a source of pleasure to many people who live in the crowded locality adjoining the park. The plants are well arranged in a large span-roofed greenhouse, and comprise many excellent varieties for the purpose of a public display. The old show type of florists' incurved and some of the Anemones, together with Pompons, all receive attention, and in the first-named section were observed Glennys and Rundles, Mons. B. Bahuant, D. B. Crane, and Baron Hirsch, all giving signs of promise in the near future. Good use is made of that pretty little Pompon, Mdle. Elise Dordan, and in the Anemone section Descartes and the old Glück are conspicuous.

Japanese are of course very numerous and of a high average quality. In varieties of whites, Elaine, Mdme. Couvat Terrail, Bouquet des Dames, Mdle. Lacroix, Mdme. Gustave Henry, Lady Byron, very fine, are too well known to require further mention, while some of the yellow varieties include Charles Davis, Pallanza, Phœbus, Mons. Panckoucke, J. H. Runchman, and Sunflower. There is a large number of Mons. Calvat's seedlings grown, and some of his earlier flowering sorts are very useful in these displays. Of these President Bevan is a fine large yellow Japanese incurved, and a worthy companion to M. Fatzer. Louise, always good and useful, is very dwarf; President Nonin is another fine large yellow, and rather better known varieties from the same raiser include Souvenir de Moulines, Reine d'Angleterre, Wertter, N.C.S. Jubilee, Soleil d'Octobre, yellow, and Mdme. Ed. Rey.

Very good examples from other sources include Col. W. B. Smith, Gloire du Rocher, the crimson W. Seward, John Shrimpton, Royal Standard, and several other popular sorts.

FINSBURY PARK.

THE Chrysanthemums here are very good this season, and there are some fine blooms on view. The collection is well advanced, and is staged in a glass house close to the Manor Gate entrance, as in years gone by. The visitor will notice the curious variety, Madame Ed. Roger, the green Japanese incurved flower. In incurved, Barbara, C. H. Curtis

and D. B. Crane are well done, but we were particularly struck with the fine examples of the huge Mrs. H. Weeks, which, like most of the Japanese of recent date, is capable of being grown to very great size. Good purple forms are Purple Emperor, Beauty of Teignmouth, and we noticed Mrs. W. Mease, the pale yellow Carnot sport, in very good condition. A massive-looking flower is Duke of Wellington, with broad bronzy florets, and so, too, is the Egyptian, something similar in form and colour.

Miscellaneous varieties include G. W. Childs, Master H. Tricker, Mrs. G. W. Palmer, large and fine forms, a striking contrast with such as M. Henri Jacotot, William Seward, Werther, John Shrimpton, Descartes, the Anemones, the newer John Pockett, and several others. Yellows are none the less noteworthy, for Sunflower, Princess Charles of Denmark, Peter the Great, Mons. Panckoucke, J. H. Runchman, Gorgeous, Phœbus, Marjory Kinder, and other equally well known, all belong to this division, but with variations of tone.

Lady Byron, M. Astorg, Emily Sibley, Duchess of Fife, and Miss Elsie Teichman are good whites, which appear to be favourites in the northern suburb. In pinks, or variations of that colour, Mrs. C. Harman Payne, M. Freeman, Charlotte de Montebrier, N.C.S. Jubilee, very fine and large; W. Tricker, a bright, pretty variety; are all of great service in enlivening a display of this kind. Edouard Audiguier is an old variety, but its colour is very telling, being a fine deep purple amaranth, with reverse of silver.

BATTERSEA PARK.

IN the large span-roofed greenhouse here the collection of Chrysanthemums is arranged in one wide sloping bank, and the plants present a very attractive appearance by virtue of their high average quality. The display includes a nice assortment of freely flowered Pompons and Japanese, which are trained up under the roof, and is a pleasing variation from the ordinary methods.

In the principal part of the display Japanese form the leading feature, and Calvat's seedlings are well to the front, this raiser being represented by Souvenir de Petite Amlie, Madame Gustave Henry, N.C.S. Jubilee, M. Chenon de Leché, Australian Gold, Madame Ed. Roger, and President Nonin. Other raisers are well represented.

Good yellows are found in J. H. Runchman, large and solid; Gloriosum, Modesto, Edith Tabor, and Sunflower, while the numerous section of whites include the grand additions Mrs. H. Weeks, Lady Byron, and others such as Niveus, Lady Selborne, and Florence Davis. There are some pretty varieties in the pink shades—viz., Rose Wynne, Good Gracious, Mrs. S. C. Probin, Eda Prass, W. Tricker, not omitting the charming little Pompon Mdlle. Elise Dordan, which is one of the best. In higher tones of colour Edouard Audiguier and Alberio Lunden are rich deep purples; Australie is large and fine; Hamlet, William Seward, John Shrimpton, and Gloire de Rocher, all help by their richness of colour to enliven the display.

Although the Japanese preponderate, the other sections are by no means neglected, and it is interesting to record that among these the incurved are freely shown, the best being Queen of England, Lord Wolseley, John Lambert, C. H. Curtis, Empress of India, Globe d'Or, Prince of Wales, and Baron Hirsch, large and fine. There were also good examples of Golden Beverley, Refulgens, Lord Rosebery, and Lord Brooke. In the Anemone section we noticed Delaware, Descartes, and M. C. Lebocqz.—C. H. P.

CHELSEA.

As the years roll on it becomes more and more difficult for Chrysanthemums to be grown to perfection at Chelsea, and the wonder is that they are as well produced as is at present the case. Fogs are all too frequent at this period of the year, and one of four days duration just when the blooms were approaching their best this season prejudiced the display to a most unpleasant degree. The flowers were irretrievably damaged, and the foliage was shorn from the stems of scores of plants as by a knife. This must be most disheartening to Messrs. J. Veitch & Sons, as well as to their grower, Mr. Weeks; but they maintain their perseverance, and each year a few hundreds of flowers may be seen of various sizes and different stages of substance. Some are on bush plants, while others are grown in the orthodox exhibition style, and these latter range in height from about 10 inches to 8 feet. One thing at any rate is escaped at Chelsea, and that is the rust, which so far has not put in an appearance on a single plant.

The major portion of the plants are arranged in a wide three-quarter span-roofed house on the left hand side of the main walk, the remainder being accommodated in a large span-roofed structure. The former is almost wholly occupied by plants producing three blooms each, which are in bank shape on a wide bed, while on a narrow front stage are numbers of plants in small pots carrying one flower each. Notwithstanding the loss of foliage consequent on unfavourable weather it is obvious that the plants have been well grown, or they would not have the hard, substantial, healthy wood that is so apparent on all hands. In the other house is an immense central bank with narrow

side borders of bush-grown specimens, producing abundance of smaller flowers suitable for decorative purposes. These, too, have suffered from the fog, and do not present the healthy appearance that characterises plants which have been carefully grown and properly tended in the purer air beyond the fog zone of the Metropolis. Still, the display attracts many visitors, and is well worthy of inspection, as demonstrating what varieties are best suited to London's vitiated autumn atmosphere.

Needless to say the Chelsea collection is very comprehensive in the Japanese section—in fact, it includes all the well-known varieties of merit, as well as the newer ones that have yet to prove their merit. The incurved varieties are not nearly so extensively dealt with, the leading forms only being grown. As the older sorts are known to everyone they need not be mentioned, and instead note may be made of a few of the novelties. These comprise Amy Ensoll, Henry Weeks, the Hon. W. F. D. Smith, R. Hooper Pearson, Lady Crawshaw, Emily Towers, Annie Prevost, Mrs. Barkley, and Mrs. Coombes, with such Australian varieties as G. H. Kerslake, jun., The Wonderful, and Wattleblossom. There are others of course, and we would advise those who desire to see the flowers to use the utmost despatch, as they will soon be gone for another season.—G. H. F.

MESSRS. CANNELL & SONS.

THE large span-roofed house at Swanley is just now at its best, and a very fine display is again on view. The novelties comprise home-grown, colonial, American, and French seedlings, many of which are well developed. Continental varieties of recent introduction comprise W. Wells, a big old gold Japanese incurved, raised by Mons. E. Calvat. Others from the same source are M. Fatzer, President Bevan, Madame Ferlat, Werther, Le Grand Dragon, Madame G. Bruant, N.C.S. Jubilee, and Mdlle. Gabrielle Debrie, all of which are fairly well known. Newer sorts are President Lemaire, crimson and gold; Madame Lucie Recoura, bright rosy amaranth, reverse silvery; Zephoria, a fine promising yellow, and large in size; Mons. H. Martinet, crimson and gold; Madame A. Rey, rosy amaranth, with silvery reverse tipped gold; Lydia, a big solid rosy amaranth, with silvery pink reverse; and many others.

Colonials include Nellie Pockett, Wallaroo, Pride of Madford, Australie, Purple Emperor, Mr. T. Carrington, Miss Mary Underhay, and J. R. Upton. But some newer sorts, such as Sydney Brunning, deep reddish terra cotta with old gold reverse; Sir H. H. Kitchener, bright reddish crimson and gold; Hector Brunning, dark crimson and gold; Mrs. Frank Gray Smith, deep golden yellow, shaded carmine; Admiral, white; and Mrs. Poppy Brunning, a buff pink bloom with a straw yellow ground, will be probably heard of again.

From miscellaneous sources there is quite a large number, several of M. Nonin's novelties being very promising, especially Amateur G. Le Chaplaine, M. Raymond Desforets, Madame F. Daupias, President Distrail, M. Gatellier, and Corcoran. Other growers are represented by Mrs. N. Molyneux, large white Japanese; Helen Shrimpton, Madeline Davis, both fine showy varieties; Ella Curtis, large and good; Mrs. A. Cross, a big golden yellow Japanese. In large quantity are the Carnot family, and at one end of the central group is a very fine display of huge blooms of Mrs. S. C. Probin.

In crimsons General Roberts is striking and effective, and in the pure pink shades Mrs. Coomb is one of the prettiest. Incurved are not largely grown, but special mention may be made of C. H. Curtis, Globe d'Or, Triomphe d'Eve, and Yvonne Desblanc.

WELLINGTON, SWANLEY.

While at Swanley I called on Mr. C. E. Wilkins, who as well as being an enthusiastic amateur, is also the Treasurer of the N.C.S. His collection only comprises incurved, and the plants were mostly in flower, or rapidly coming on at the time of the visit. The varieties which Mr. Wilkins prefers are as under. The various members of the Queen and Empress families; Ernest Cannell, of good size; Austin Cannell; John Miles, deep in build and of good form, colour deep golden bronze; Globe d'Or, also very fine in colour; Lady Isobel, Yvonne Desblanc, Mdlle. Lucie Faure, Rose Owen, Mrs. R. C. Kingston, Ma Perfection, and others of that type. Cactus Dahlias also form a part of this gentleman's floral favourites.—C. H. P.

EXMOUTH NURSERIES.

As may be judged by the exhibits which have been put up at the R.H.S. and N.C.S. meetings, Chrysanthemums are even better than usual here. Novelties and varieties of recent introduction are grown to the usual exhibition form, the object being to test the hundred and one sorts as to timing of buds, and the probabilities of varieties succeeding or otherwise. The main show house now contains about 3000 plants, grown principally to three blooms per plant. Among the whites Queen of the Exe stands first, the blooms being large, massive, yet refined. Madame Gabrielle Debrie on the early bud is white instead of the usual flesh pink; this is very promising. Of

Calvat's last set Princess Bassaraba seems to be one of the best. Of the same set Zephoria is superior to Soleil d'Octobre, being of the same tint of yellow, but fuller in form. Some rich golden yellow blooms of Le Grand Dragon are in evidence, and this variety appears likely to become equally as popular as Madame Carnot. Samuel C. Probin is in magnificent form, the colour being cherry red shaded with buff and pink.

Wonderful, a colonial variety, is of grand dimensions, much in the way of a glorified Mrs. Wheeler; Corsair is a rich blood red of fine globular form, and should become popular. Several dozen plants of Elma are giving some nice blooms of a bright golden yellow, the form and habit of growth being similar to Mutual Friend. R. Hooper Pearson, the richest yellow in the house, is getting past its best. Madame B. Fray is of the same rich colour as W. Tricker, and should find a place in all collections, the form being massive and handsome; I was assured that this was equally good last year. There are dozens of other promising varieties, but space forbids.

Many new incurved varieties are in bloom, three of the very best being King of the Yellows, very rich colour; Nellie S. Threlfell, pure white; and Major Matthew, of a deep rose shade. All are of perfect shape.

Decorative varieties seem to be worth growing here, if we may judge by the 4000 plants now housed and being housed. These are principally grown for trial purposes, and I was assured that some new late whites and yellows are likely to prove a revelation to market growers. A late crimson seems to be yet unattainable. It was surprising to note a large bed of Cactus Dahlias in full bloom, which for the first week in November says much for the mild climate. —VISITOR.

SCHEDULES OF SHOWS.

YORK.—NOVEMBER 15TH, 16TH, AND 17TH.

THE twentieth Chrysanthemum Show of the Ancient Society of York Florists will be held in the Exhibition Buildings on the above dates, and intending competitors must send their entries to the Secretary, Mr. G. F. W. Oman, 38, Petergate, York, by Nov. 8th. Many are the excellent growers that congregate at York, and it is anticipated the present Show will be well up to the average. For a 120 feet group of Chrysanthemums and foliage plants, a 15-guinea challenge cup and 8 guineas cash are offered as the premier award. The second prize is a 5-guinea cup and 7 guineas in cash, and the third and fourth prizes are 5 and 3 guineas respectively. The sum of £23 2s. is offered in four prizes for a smaller group, and these two classes alone ought to make a splendid display. Then there are several classes for specimen plants as well as Primulas, Dracenas, and others. For eighteen Japs and eighteen incurved the prizes are £10, £5, £3, and £2 respectively, with the addition to the best stand of the citizens' challenge prize, value £20. These classes are open, and there are of course many with necessary restrictions, in which excellent encouragement in the form of prizes is given to growers, but full particulars must be got from Mr. Oman as above.

BRADFORD.—NOVEMBER 17TH AND 18TH.

NEARLY five dozen classes find a place in the schedule of this well known Yorkshire Show, and these are carefully distributed among local and other exhibitors of Chrysanthemums, with a few for other types of cultural skill. Entries must reach Mr. R. Richel, Eldwick, Bingley, by Friday, November 10th. The most important open class is for twenty-four Japanese in not less than eighteen varieties, and this ought to bring excellent competition. The first prize consists of a 10 guinea challenge cup and £5 in cash, the second of £3, and the third of £2. The sum of £10 will be divided amongst the first, second, and third stands of twenty-four incurved; while £6 are allocated to a class for twenty-four Japs to be shown in vases. For a Chrysanthemum group we find a silver cup value 5 guineas with three money prizes of a total of £5, and exactly the same for a group of miscellaneous plants. The principal local class is for twenty-four cut blooms, for which Lord Masham offers a 10 guinea cup and £2 as the first prize. For eighteen Japanese there is the city members' cup, and money prizes are added in both cases. The schedule is a capital one, and the display ought to equal any of its predecessors.

A PLEA FOR THE USE OF BRITISH WILD FLOWERS IN THE GARDEN.

Among the Thistles are many worth a position in gardens, some for foliage, as the Carline Thistle, others for noble growth, and others for flowers. All can be readily raised from seed, and if care is taken to remove the flower heads before they become downy they will not become a nuisance. There is also the Musk and Plume Thistle. Columbines are not infrequent on our chalk hills, and are attributed to the Romans, who esteemed the plant because the upturned flower resembled eagles nestling. Among maritime

plants the Sea Holly and the Horned Poppy take readily to gardens, and are distinct both in foliage and flower; while Matthiola incana is lovely with its lavender-pink flowers. The Thrift is well known as a neat border edging, and the white Popweed, *Silene inflata*, is useful.

For hanging vases the small Bindweed and the Creeping Jenny or Moneywort are worth attention. Among the low-growing gems of our flora the yellow Cistus holds a first place for arid soils and rockery, and the various coloured forms of the Milkwort claim our attention. *Hypericum humifusum* is also a small pretty subject. The Eyebright (*Euphrasia*) is interesting, and the pink Celandine (*Eythrea*) always strikes me as a good garden flower. The Sea Campion just named, with its white flowers, is not averse to rock garden culture.

For sandy soil the Rest Harrow, with its rosy flowers, is worth culture, under which it assumes a bush form. The yellow Anthyllis and its relatives the Hippocrepis, with *Lotus corniculatus* (Bird's-foot Trefol), and *Tormentilla* are admirable creeping plants for chalky soils. *Saxifraga granulata* is one of our best subjects for dry sandy banks. *Chlora perfoliata* (yellow) is a gem on the chalk in August. The Chicory is a grand blue flower, and will succeed in any dry soil. *Campanula aggregata* is not uncommon on downs, while for old walls the common Celandine is excellent, its apple-green foliage being light and elegant. The Harebell is always a welcome flower, and the Ivy-leaved Lettuce (*Lactuca*), with the yellow Wallflower, and some of the Stonecrops and native Sedums, all make an old wall interesting; nor must we forget the red Valerian, which is quite at home where nothing else can grow, also the Cornish Moneywort.

The wild Roses, either the Sweet Briar of our hills or the small bushes of single Burnet Rose (*R. spinosissima*), which are common on all our chalk hills, are well worth culture, and few plants in our wild garden are more esteemed than our Dog Rose, elegant in its simple flowers, and striking when its haws become ripe. For a climber, few plants equal the Woodbine or wild Clematis (*C. vitalba*), and those who have seen the way it grows at Belvoir Castle grounds over the gardener's house and surroundings can never forget the pleasing effect provided; it is at all times beautiful in leafage and flower, and especially when set with its silvery grey masses of feathery seed vessels in autumn. The Honeysuckle, Bryony, and the climbing Vetch are all good trailers, while the white *Convolvulus* (Moonflower) is fine over shrubs and low trees.

It is, however, I fancy, when we come to our natural aquatics and riparian plants that we find many especially suitable for embellishing our streams and pond margins and the damp spots in our gardens. The glorious Loosestrife (*Lythrum*), the pink *Epilobium hirsutum*, with its pretty but evanescent cup-shaped flowers, the long spikes of *Lysimachia vulgare* (Moneywort), the Tansy, with its handsome foliage and golden umbels of flowers, our Water Forget-me-not (*Myosotis palustris*), with its amethystine umbels, are all universal favourites. There are also the yellow Flag (*Iris*), Water Plantain, Figwort, the flowering Rush (*Butomus*), with its head of rosy purple flowers, the Bog Bean, the elegant Arrow Head, and the glorious Reed Mace or Bulrushes. The white and yellow Water Lilies, the Water Hyacinth (*Hottonia*) with its soft blush spikes resembling some choice Orchid, are worth care to establish. The white Water Ranunculus is a striking floating plant. The tall masses of the Meadow Sweet (our native *Spiraea*), the King Cup (*Caltha*), with its golden masses of intense yellow flowers set on showy green heart-shaped leaves, are all beautiful for water gardens. All these water-loving plants respond to careful treatment, and many of them are freely used, but why not more?

In autumn *Hypericum perforatum*, with its foliage and golden flowers, is one of our best plants, and in sandy wastes the Ragwort is quite a feature, equal to many cultivated plants of its colour. The tall *Campanula urticifolia* is handsome, and the rosy-bloomed Soapwort (*Saponaria officinalis*) is grand for masses and flowers over a long period. The Mallows are also striking, and the tree form does well near the sea, while the Musk Mallow makes a grand show, and the commoner striped *M. sylvestris* is not to be despised. The Marsh-mallow is also suited for the bog garden. *Achillea millefolium* (Milfoil) as a red garden plant is well known, and the wild forms range from white through blush to rose colour. The Scabious tribe are very good border plants, and affect our chalk hills in the species *S. arvensis* and *S. columbaria*; the Devil's-bit Scabious (*S. succisa*) is a feature with its tall stems and blue flowers. The Harebells continue to flower until October. *Spiraea filipendula* is often found on upland pastures. The blue Cornflower (*Cyanus minor*) is in flower all the summer and autumn, and the yellow Corn Marigold is a showy flower. *Conyza squamosa* (Shepherd's Spikenard) is very striking on chalk or clay pastures, and rises some 3 feet, covered with pretty yellow starry flowers.

All these come to us annually, and we welcome them as old friends. May we not hope to see them tended and cared for in our flower gardens, where they will respond readily to loving care and attention.—(Conclusion of paper read by Mr. G. BUNYARD, V.M.H., at the Horticultural Club.)



THE FORCING OF TEA ROSES.

OF all the many plants that are forced every year Tea Roses are amongst the most useful, and, without exception, are the greatest favourites. To force them successfully care should be taken to select only the strongest and healthiest plants, and these must be specially prepared the preceding year for what they have to do. Young vigorous plants that are grafted on the Manetti or common Briar are best, those on the former for preference, as it is more quickly started into growth, though it is not so long-lived as the Briar.

When outdoor Roses begin to open all those plants which have been forced should be turned outside, plunging them in ashes or any material that will serve to keep the roots cool. They should be fully exposed to the sun, and placed far enough apart to reap the benefit of all light and air. Water must be freely applied, and frequent syringings are also beneficial in keeping down fly and red spider. Little or no manure ought to be given whilst outdoors, the chief thing being to give the plants a good rest and to thoroughly ripen their wood.

About the end of August or beginning of September the plants should be potted, every one being thoroughly shaken out and replaced in clean pots with plenty of drainage. By doing this in the autumn the plants get a good hold of the soil by the time they are required for forcing, whereas if it is deferred until spring they lose time in forming roots, and, if excited by too much warmth, often push a few buds and then fall into a miserable state, the result of imperfect root action. The soil used for potting should be good fibrous loam, leaf mould, and well-decayed stable manure, with enough sharp sand added to keep the whole porous. After potting they ought to be stood on coal ashes and frequently syringed, water being applied very sparingly to the roots at first.

At the end of October they should be taken into a cool house; but this removal depends entirely upon the weather. If no sharp frosts or heavy rains intervene, they may be left outside much later. The earliest plants can be started about the end of December in a temperature of 45°, gradually increasing this as the plants grow, and affording air on all possible occasions. Before being started they should be pruned, and any that require it must be staked at the same time. They should be syringed every day if the weather is favourable, and fumigated if fly appear. Liquid manure may be frequently applied when they are growing freely, and occasional top-dressings of any good artificial manure are beneficial.

Good blooms in plenty should be ready for cutting by the middle or end of February; but the amount of sunshine received makes a great deal of difference in the actual time. After being in flower some time Tea Roses often make small weak shoots with few flowers. When this is the case the plants should be kept drier after removing all the small wood, and no manure must be given for a time. After a short rest they will commence to bloom again, when they may be more liberally treated. If Tea Roses are treated as above a constant supply of flowers can be obtained for a long period, and it is very rare that the supply of early Roses is greater than the demand.—C.

VERONICA SPECIOSA.

OF the many shrubby species of Veronica cultivated in gardens none is more popular than this and its numerous varieties, for, besides being remarkably easy to grow, it flowers well at a time of year when outdoor flowers are very scarce. Objections could be raised against its universal cultivation outside on account of tenderness, but in the southern and south-west counties it will stand all but the severest winters uninjured if planted in a sheltered corner, and during September, October, and November it may be relied on to produce a large quantity of flowers.

The species bears upright axillary racemes, 3 inches long, of blue flowers. This in itself is very pretty, but cannot be compared with the brilliant colours of some of the varieties. Of these *Eclatante*, *Constellation*, and *La Séduisante* among the reds are exceptionally fine, while of purples *Madame Chretien* is by far the best, but *Purple Queen* and *Mervillie* are also well worth growing. The four former bear dense racemes of flowers 4 inches long, and are really first rate varieties.

In places where the climate is not favourable for the cultivation of this species outside during winter it is a good plan to root cuttings in autumn and grow the plants in a frame through the winter and spring,

planting out in May. During the summer nice bushy plants will be made which may be potted in September, and will be found to make excellent plants for the cold greenhouse, conservatory, or dwelling house throughout the winter, for after the flowers are over the deep green foliage still makes the plants attractive.—D.

THE NATIONAL CHALLENGE TROPHY.

MR. OWEN THOMAS, in his contribution to the discussion on this subject (page 378) certainly opens in relation to it a far wider range than had hitherto been suggested. Practically were his proposal adopted it would become not a mere Grape challenge, but a national horticultural challenge trophy, and for the simple reason that its existence would as a great object for competition arouse interest in every section of gardeners. I think it is excellent. The great growers of Grapes for exhibition are few indeed, but if we add to these the great growers of fruit, indoors, outdoors, or vegetables, then do they become legion, and there would be far better prospects of getting the large sum suggested than would be the case if limited to Grapes only. Really such a grand trophy should be offered only for say twenty bunches of Grapes, twenty dishes of indoor fruits, to include four Grapes, thirty dishes of outdoor fruits, or forty dishes of vegetables.—A. D.

[It is a long time since a subject has been found so tempting to gardeners as that which was introduced by Mr. D. Buchanan on page 272 of our issue of September 28th. The proposition, as might be expected, has widened out in the discussions in subsequent issues, culminating in the broad-minded suggestion of Mr. Thomas for what may be fairly described as a grand national challenge trophy for horticultural produce grown for utilitarian purposes. The whole of the opinions expressed in the last five issues of the *Journal of Horticulture* may well be pondered over during the present month, and, when the sun of the autumn queen has set once more, the whole subject can be reverted to, deductions compared, and, if possible, a definite issue arrived at and methods formulated for the production of a trophy that would embody the earnestness and redound to the honour of the gardeners of the United Kingdom.]

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—NOVEMBER 7TH.

THE confiction with numerous *Chrysanthemum* shows invariably prejudices the display at the Drill Hall; on this occasion the space was very sparsely occupied. There were exhibits in each section, but Orchids were not numerous. Mr. Hudson made a splendid show with *Begonia Gloire de Lorraine*, and one or two growers showed capital collections of fruits.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); and the Rev. W. Wilks with Messrs. J. Cheal, E. Shaw Blaker, J. H. Veitch, W. Poupart, A. F. Barron, A. H. Pearson, A. Dean, S. Mortimer, W. Farr, C. Herrin, G. Woodward, G. Wythes, F. Q. Lane, H. Balderson, G. Norman, W. J. Empson, and W. H. Divers.

Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, contributed a collection of eighty-four dishes of Apples and Pears. Though the former were not particularly large they were firm and of good colour. The most prominent dishes were Newton Wonder (excellent), Peasgood's Nonesuch, Alfriston, Bismarck, Stirling Castle, Tower of Glamis, Warner's King, Allington Pippin, Cox's Orange Pippin, Bess Pool, Ross Nonpareil, Rosemary Russet, and Cackle's Pippin. Of Pears Huyshe's Victoria, Beurré Clairgeau, Emile d'Heyst, Marie Louise, Beurré Rance, Beurré Diel, and Bergamotte Espéren were conspicuous (silver-gilt Knightian medal). From the Chiswick Gardens came a small collection of Cabbages. Several exhibitors contributed single dishes of Apples.

A magnificent collection of Apples and Pears was staged by Mr. A. J. Thomas, Rodmersham. Grand dishes of Bramley's Seedling, Newton Wonder, Annie Elizabeth, Warner's King, Bismarck, Lady Henniker, Cox's Orange Pippin, Royal Jubilee, Chelmsford Wonder, Lord Derby, Lane's Prince Albert, Emperor Alexander and Gascoyne's Scarlet Seedling Apples were observed, with such Pears as Pitmaston Duchess, Beurré Clairgeau, Beurré Diel, Beurré Fouqueray, Glou Morcean, Marie Louise, Beurré Bosc, Princess and Magnate (silver-gilt Knightian medal.) Messrs. J. Veitch & Sons sent from their Langley Nursery, Apple Mr. Leopold de Rothschild, which has been raised from a cross between John Downie Crab and Cox's Orange Pippin Apple.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Drury, J. H. Fitt, J. Jennings, J. F. McLeod, G. Gordon, W. Bain, E. H. Jenkins, J. W. Pawle, C. E. Shea, H. Turner, D. B. Crane, E. T. Cook, G. Paul, C. Jefferies and E. Mawley.

Mr. J. Hudson, V.M.H., gardener to Leopold de Rothschild, Esq., Gunnersbury House, exhibited a splendid collection of *Begonias Gloire de Lorraine* and Mrs. Leopold de Rothschild. The plants, in 48-pots, were grandly flowered (silver-gilt Flora medal). Messrs. F. Sander & Co., St. Albans, showed miscellaneous foliage plants, with a few Orchids; while Messrs. H. Low & Co. contributed *Statice profusa*. Messrs.

J. Veitch & Sons, Ltd., Chelsea, sent a box of their handsome hybrid Rhododendrons. Mr. A. Allen, gardener to Lord Hillingdon, Uxbridge, showed a few splendid blooms of Violet Marie Louise; and Mr. Bain, Barford Lodge, Dorking, blooms of Violet Mrs. J. J. Astor. Mr. J. Forbes, Hawick, contributed Begonia Caledonia, a white form of B. Gloire de Lorraine, that is sure to become popular. Mr. T. Whillans, gardener to the Duke of Marlborough, Blenheim, showed Carnations Oxford Yeoman.

Mr. Millen, gardener to C. E. Shea, Esq., Foots Cray, Kent, was represented by four dozen Chrysanthemums, wholly consisting of Japanese varieties. The best of these were Mutual Friend, Pride of Madford, Madame Gustave Henry, H. L. Sunderbruch, Elsie Teichman, Lionel Humphrey, Edith Tabor, Lord Cromer, N.C.S. Jubilee, and Lady Hanham (silver Flora medal). Chrysanthemum blooms came also from Mr. J. Corbett, The Gardens, Mulgrave Castle, Whitby, Yorks. Messrs. W. Wells & Co., Earlswood, sent a few Chrysanthemums, including Silver Queen, Etoile de Feu, Sir W. J. Clark, Miss Lucy Cheesman, M. Louis Remy, and Lord Salisbury. Mr. W. Seward, Hanwell, showed a dozen Chrysanthemums of much promise.

Mr. J. H. Lane, gardener to H. J. Elwes, Esq., Colebourne Park, Andoversford, Glos., arranged a group of his Nerines in which were several of superb colour (silver Banksian medal). Messrs. J. Waterer and Sons, Bagshot, contributed a collection of Conifers that was most interesting as well as instructive (silver Flora medal). Mr. H. Rogers, gardener to Lord Rendlesham, Rendlesham Hall, Woodbridge, showed Violets Marie Louise and de Parme in such condition as is all too seldom seen. They were magnificent in size and colour (silver Banksian medal). Miss Breton, Forest End, Sandhurst, Wokingham, Berks, brought a number of flowers illustrative of the mildness of the season and the favourable situation of her garden. There were Roses, Dahlias, Canary Creepers, Ageratums, Salvias, and many others from the open garden. Mr. F. J. Thorne, gardener to Major Joicey, Sunningdale, sent a grand plant of Begonia Gloire de Lorraine.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, J. G. Fowler, J. Colman, J. Douglas, E. Hill, F. J. Thorne, W. H. Young, H. J. Chapman, J. T. Gabriel, E. Ashworth, A. H. Smee, C. J. Lucas, R. B. White, H. Ballantine, J. Jaques, and T. B. Haywood.

Orchids were not particularly numerous, but quite up to the average of interest and quality. Mr. J. Hudson sent some superb out blooms of Cattleya labiata, which were much admired. Mr. M. Gillespie, Usk, Mon., showed Odontoglossum crispum hybrid. Mr. Wilkinson, gardener to Mrs. Briggs-Bury, Acerrington, staged Cattleya labiata Gilmouri. Mr. E. Kromer, Bandon Hill, West Croydon, was represented by a group of Cattleyas as well as C. granulosa gigantea and C. labiata Kromeri (bronze medal). R. Brooman White, Esq., sent from Arddarroch spikes of Odontoglossums with O. crispum xanthotes (small silver medal) and Mr. A. S. Hitchins, St. Austell, Cypripedium Hitchinsiae. Messrs. J. Veitch & Sons staged Cattleya labiata alba Princess of Wales, and Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Streatham, sent a fine plant of Cattleya labiata.

Mr. J. Douglas, Great Bookham, exhibited a number of out blooms of Cattleya labiata and one or two other Orchids (bronze medal). Mr. E. Ashworth, Wilmslow, sent a number of Cypripediums and Laelia pumila Ashworthiae. Mr. W. H. Young, gardener to Sir F. Wigan, Bart., East Sheer, sent Laelia pumila Low's variety, and Cattleya Bowringiana concolor. Messrs. H. Low & Co., Bush Hill Park, Enfield, contributed a bright little group (small silver medal).

CERTIFICATES AND AWARDS OF MERIT.

Antholiza ethiopica (J. T. Bennett-Poë).—A tall growing Montbretia-like plant. The flowers are orange scarlet (award of merit).

Begonia Caledonia (J. Forbes).—A white form of B. Gloire de Lorraine is sufficient description for this (award of merit).

Cattleya labiata alba Princess of Wales (J. Veitch & Sons).—A most beautiful white variety. The lip is faintly suffused with rose, and the throat yellow (first-class certificate).

Cattleya labiata (H. J. Chapman).—A singularly rich coloured variety of perfect form (first-class certificate).

Cattleya labiata Gilmouri (Mrs. Briggs-Bury).—A chaste flower. The sepal, petals, and edge of the lip are white. The central blotch on latter is maroon crimson, and the throat lemon (first-class certificate).

Cattleya labiata var. (J. Hudson).—A lovely variety. The sepals and petals are purple rose, as is the margin of the lip. This organ has a central patch of crimson and cream side lobes (first-class certificate).

Dendrobium cologyne (H. Low & Co.).—A peculiar looking Orchid, of which the prevailing colour is greenish brown (award of merit).

Nerine Mrs. Berkeley (H. J. Elwes).—A splendid form of rich salmon hue (award of merit).

Nerine Miss Wilknot (H. J. Elwes).—A brilliant orange scarlet variety of great beauty (award of merit).

Nerine Mrs. Godman (H. J. Elwes).—A rose magenta coloured variety of opener form than the other varieties (award of merit).

Violet Mrs. J. J. Astor (W. Bain).—A deliciously fragrant double mauve coloured variety (award of merit).

Apple Mrs. Phillimore (G. Bunyard & Co.).—A medium sized, flattish, angular Apple with prominent crown ridges. The colour is bright red on the sun side and pale green on the shaded side. The large half open eye is deeply set. Stalk short, deeply inserted (award of merit).

Pear Emile d'Heyst (G. Woodward).—A well known and excellent variety (award of merit).



RECENT WEATHER IN LONDON.—During Saturday, Sunday, and Monday morning a considerable amount of rain fell—indeed, it scarcely ceased during the entire period. On Monday morning, though there was no rain, it continued very dull, but the evening was clear, and inclined to be frosty. On Tuesday it was dull but fine until late in the evening, when rain fell heavily, and continued until Wednesday morning. At the time of going to press it was fine.

—KEW SEEDS.—The issue of the "Kew Bulletin" just to hand comprises a list of seeds of hardy herbaceous annual and perennial plants and of hardy trees and shrubs which, for the most part, have ripened at Kew during the year 1899. These seeds are not sold to the general public, but are available for exchange with Colonial, Indian, and Foreign Botanic Gardens, as well as with regular correspondents of Kew. No application, except from remote colonial possessions, can be entertained after the end of March, 1900.

—ISLE OF WIGHT.—The monthly meeting of the Isle of Wight Horticultural Improvement Association was held at Newport on Saturday. Dr. J. Groves, B.A., J.P., presided over a good attendance, considering the inclemency of the weather. Mr. F. W. E. Shrivell, F.L.S., gave an interesting lecture on "Five Years' Experiments with Chemical and Farmyard Manures," as carried out by Dr. Bernard Dyer and himself at Thompson's Farm, Golden Green, Tonbridge. The subsequent discussion proved most valuable, after which a unanimous vote of thanks was accorded the lecturer for the many practical hints he had given. An enjoyable meeting was brought to a close after the election of four new members.—S. H.

—ZONAL PELARGONIUMS AT REIGATE.—I have in previous years referred to the beautiful show of these annually seen in the winter at Woodhatch, and would not now have mentioned them here but to emphasise the fact that "G.'s" note respecting the culture of these flowers at page 388 seems exactly to describe Mr. Salter's method of culture throughout the season. He takes tops from the old plants in February, roots them in warmth, and grows them on apparently in the simplest way, with the result that in the winter he has in a large, light, airy span house, one of the most beautiful shows of bloom to be seen anywhere. As to varieties, these are indeed numerous, running into several dozens. Possibly some may like one shade or hue of colour over another, but all are most beautiful. It would seem as if every variety properly treated made a good winter bloomer. All are singles.—A. D.

—BIRMINGHAM GARDENERS' ASSOCIATION.—There was an average attendance of the members at a recent meeting to hear a paper read by Mr. H. Martin, gardener to Lord Leigh, Stoneleigh Abbey, Kenilworth, on the "Forcing of Vegetables," a subject on which his extensive experience fully qualified him to deal. One of the principal subjects was the culture of Mushrooms, and which especially elicited an interesting discussion among several of the members present. Preference was given to the brick form of spawn as against the French and, milltrack makes, and the manure of corn-fed horses was also selected as the best medium for the composition of the beds. Asparagus, Seakale, French Beans, and saladings were also adverted to in lengthened detail. A collection of Michaelmas Daisies and several examples of Apples again created considerable interest; the former by Mr. W. B. Child, and the latter by Messrs. H. Snead and W. Gardiner.

—KINGSTON GARDENERS' SOCIETY.—Mr. Young, gardener to Mrs. Pearson, The Grange, Kingston Hill, read a paper upon "Annuals in Pots for Spring Decoration," but dwelt more especially upon the Schizanthus, of which the varieties grandiflorus oculatus and retusus Grahami were considered the best. Anyone with the convenience of a cold frame and a greenhouse can succeed with these. Sow seeds in 60-size pots in the early part of September, place the pots in a cold frame. When the seedlings appear thin out to four in each pot. At the end of October place the pots near the glass in a cool house for the winter. The end of January is the time for the final potting, using 32-size pots. Do not hurry the plants into flower, and the result will be a cloud of beautiful Oncidium-like flowers, which are grand for conservatory decoration or for cutting during three months of the spring.—J. T. B., Eastcott House, Kingston Hill.

— **CONCERT AT CHERTSEY.**—We learn that the concert organised by Mr. C. Brown in aid of the Gardeners' Royal Benevolent Institution, and given on November 3rd, will result in the sum of £13 being handed to the Fund. Mr. Brown also secured two yearly subscribers.

— **DEATH OF MR. SAMUEL CLAY.**—We regret to have to record the death of Mr. Samuel Clay, which occurred on October 28th at Great Clacton. The deceased was the founder of the firm of Messrs. Clay and Son, of Stratford. Mr. Clay was eighty-three years of age. He retired from active participation in the business that bears his name some few years ago.

— **WINTER MOTHS.**—These first made their appearance this season on the 1st inst. For years they have been steadily on the decrease, so much so that I look upon grease-banding trees as almost superfluous, with the aid of Paris green in spring. I shall look on a week or two before being at the trouble of banding.—J. HIAM.

— **PEAR BEURRÉ CAPIAUMONT.**—I see a mention of this Pear by "Liverpool," page 377. It is one of the best Pears for stewing, its flavour being just what is wanted for that purpose. It is well to plant a tree or two of it in every garden, as its free-bearing propensities are all in its favour for the object alluded to.—E. M.

— **HESSLE GARDENERS' SOCIETY.**—At the fortnightly meeting of the above Society, held on October 31st, Mr. Mason presided over a good attendance. Mr. Moody, Chairman of the Hull Gardeners' Association read a most instructive and suggestive paper on the raising, hybridising and growing of the Gloxinia. A good discussion ensued.—J. F. D., Yorks.

— **AKEBIA QUINATA.**—I have sent you, by parcel post, a fruit of Akebia quinata. The plant is growing on a south wall, and has been planted about three years. Has it been known to fruit before in the Midlands? We had the plant from Japan.—A. McCULLOCH, *Newstead Abbey, Nottingham*. [We have no knowledge of the plant flowering in the Midlands, but some of our readers may favour with records.]

— **HOSPITAL FLOWER SHOWS.**—I should like to call attention to a very valuable work which is carried out on an extensive scale in the Needle District. It is what are popularly called "Hospital Flower Shows," but it is of far more reaching value than a flower show usually conveys. From the report of the annual meeting at Crabb's Cross last week it is seen that about £60 from one locality only out of some eight to ten are raised by subscriptions, and from the show all surplus from very moderate working expenses are available to relieve pain and suffering. Shows of this description might be worked in thousands of districts.—J. HIAM, *Astwood Bank*.

— **WEST DERBY GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—On the 1st inst. the Rev. Percy Stewart, rector of West Derby, presided over an excellent attendance of members in the Social Club, Hartington Road, when Mr. R. Pinnington of Roby delivered a lecture on "Herbaceous Plants and Borders," tracing their value for cutting, their propagation, and mode of making the border, and incidentally mentioning the most approved sorts for the district. At the close of the lecture many questions relating to these plants were most satisfactorily answered by Mr. Pinnington. In proposing a hearty vote of thanks, the rev. Chairman spoke of his delight at being present. Herbaceous plants were a special feature in his garden, and he rejoiced to see them coming so much to the front at the present time. If planted judiciously in various aspects a long succession of flower would be the result, and he fully believed that nothing in the garden could be found more useful. Mr. Bache seconded, also the vote passed to the Chairman by Mr. Pinnington.

— **THE NANNY APPLE.**—Please do not run away with the idea that this Apple is going to be lost, because it is not. I hope to graft at least fifty trees of it next April, as its valuable qualities are so well known in this neighbourhood. At the Portsmouth Chrysanthemum Show I saw a grand dish of it in the collection exhibited by Mr. Cousens, Swanwick, Southampton, who thinks most highly of the Apple. The fruits were equal to Worcester Pearmain in colour, and of a size large enough to please all—some dessert Apples do not. The fruiterers in this district think much of Nanny. When we consider that it is the only dessert Apple to be had in quantity early in October just before King of the Pippins is ready, there is no wonder it is popular among those who know it. The only opponent Nanny has at the present time is that little known variety Benoni. This is a desirable Apple, and I am certain when better known it will be largely grown. Nanny does not fruit freely in a young state; the trees require age or much space to allow of a quick development without much pruning.—E. MOLYNEUX.

— **ERICA CAVENDISHIANA.**—A fine specimen of Erica Cavendishiana can be seen in the gardens of R. Tedcastle, Esq., Marlay, Rathfarnham. The plant measures nearly 4 feet in height and 3 feet in diameter, and it is growing in an 18-inch pot.—A. O'N.

— **ROYAL METEOROLOGICAL SOCIETY.**—At the ordinary meeting of the Society, to be held at the Institution of Civil Engineers, Great George Street, Westminster, on Wednesday, the 15th inst., at 7.30 P.M., the following papers will be read:—"The Diurnal Variation of the Barometer in the British Isles," by Richard H. Curtis, F.R.Met.Soc.; "Note on Earth Temperature Observations," by G. J. Symons, F.R.S.

— **ROADSIDE FRUIT TREES.**—In France, Germany, Belgium, and some other European countries, it is the practice to plant fruit trees along the public roads. The local governments plant the trees and cultivate them as a source of revenue, and it is said that in Belgium there are three-quarters of a million roadside fruit trees, which in one year produced £400,000 worth of fruit. The Walnut, Chestnut, Cherry, Plum, and Apple are the favourite trees for roadside planting.

— **SUSSEX RAINFALL.**—The total rainfall at Haywards Heath for the past month was 1.95 inch, being 2 inches below the average. The heaviest fall was 0.70 inch on the 1st. Rain fell on nine days. The maximum temperature was 62° on 27th and 29th; the minimum 32° on the 21st. Mean maxima 51.15°; mean minima 40.28°. Mean temperature 45.71°. November has come in stormy. There was thunder with heavy rain on the 2nd.—R. I.

— **LONDON RAINFALL.**—In London the rainfall of Friday evening and night was extremely heavy, the amount measured next morning at Brixton being as much as 1.14 inch. This made the third occasion this autumn on which the daily rainfall had exceeded an inch, a state of things without parallel in the London records extending back as far as the year 1871. Taking the whole year through, there were in the past twenty-eight years only two cases in which an inch or more of rain fell on as many as three days. In London (at Brixton) the total rainfall for the present month amounted up to last evening to as much as 2.16 inches. The aggregate for five days was, in fact, within 2.10ths of an inch of the average for the whole of November, and was nearly a tenth of an inch more than we had during the whole of the three summer months, June, July, and August.

— **THE MILDNESS OF THE SEASON.**—Mr. E. Molyneux writes from Swanmore: "I send you a few Dahlias, about thirty varieties of the Cactus type, to show how mild it still is here in South Hants. The plants are flowering quite as freely now as they have done at any time during the summer; it is wonderful. I also enclose some Sweet Pea blooms. These are a little spoilt by the recent heavy rains, but fancy Sweet Peas flowering now, the same plants having been continuously in bloom since June!" [The flowers came as a pleasant surprise, and the bright colours of the Dahlias were the more welcome now that everyone is smitten with Chrysanthemum fever to such an extent as to believe that there is no other plant in the floral kingdom. The blooms were exceptionally well developed, were stout in petal, of good size, and stood well up on strong footstalks. From several sources we learnt of the practical termination of the Dahlia season upwards of three weeks ago. The Sweet Peas were delightfully fragrant, and their presence at this time of the year is even more exceptional than that of the Dahlias.]

METEOROLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1899.										
October and November.										
Sunday . 29	S.S.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday . 30	N.N.W.	58.2	55.8	60.5	50.5	0.27	54.7	52.9	52.9	43.9
Tuesday . 31	N.N.W.	48.2	47.5	51.1	47.9	0.02	54.4	53.2	53.1	47.8
Wednesday . 1	S.S.E.	47.0	43.7	55.5	35.9	—	50.8	53.2	53.3	35.9
Thursday . 2	S.S.E.	51.9	48.8	63.3	34.5	0.04	48.5	52.3	53.4	26.4
Friday . 3	S.S.W.	58.9	57.5	60.0	48.5	0.32	48.5	51.5	53.3	25.9
Saturday . 4	S.W.	50.8	51.6	59.0	52.5	1.33	51.6	51.8	53.2	44.5
	S.W.	50.1	58.4	60.9	48.9	0.31	51.9	52.2	53.1	48.1
MEANS ..		54.3	51.9	58.6	45.5	Total 2.29	51.5	52.4	53.2	38.9

The weather has again been dull, mild, and very wet.



CATTLEYA EUDORA MADAME ALBERT HYE.

MANY Cattleyas, as well as other Orchids of more than average merit, have of late years been exhibited in London by growers in Belgium, and amongst the most successful of such visitors has been Mons. Jules Hye, Leyden. This enthusiastic orchidist is a comparatively frequent participant in the displays of the Royal Horticultural Society, and when he is represented it is almost invariably by something really good. The variety of *C. Eudora* named Madame Albert Hye, and which we reproduce in fig. 75, was shown by Mons. Hye at one of the early summer meetings of the R.H.S., when the Orchid Committee recommended a first-class certificate. It is a strikingly handsome form, with sepals and petals of a pleasing soft rose shade with deeper markings. The broadly expanded lip is rich velvety crimson, and the throat is yellow with crimson veins.

MASDEVALLIA VEITCHIANA-ESTRADE.

The parentage of this lovely little hybrid *Masdevallia* is expressed in its name, and from two such fine species one would naturally expect a bright and charming progeny. This it is, and a most free flowering little Orchid as well, so free that the plants are covered with flowers for weeks together. These are larger than those of *M. Estrade*, and resemble them most, though the influence of *M. Veitchiana* is apparent in the scarlet and orange colour. It was raised in Captain Hincks' collection at Richmond, Yorks, and first flowered in 1893.

CYMBIDIUM CYPERIFOLIUM.

This is an uncommon but pretty species, with narrow Rush-like foliage, and pseudo-bulbs about the same shape as *C. Lowianum*, only smaller. The flower spikes occur in the same manner, and the flowers are almost exactly like those of a small form of *C. Tracynum*. The white lip, with bright crimson dots, is exceptionally beautiful. Its culture is the same as for the other species here named, but of course the pots need not be so large. It likes a cool, moist, and shady house, with ample supplies of water when growing freely.—H. R. R.

HARDY FRUIT FOR PROFIT—OUR SHORTAGE IN APPLES.

We find in the "Wisbech Advertiser" what appears to be the full text of a paper by Mr. R. Lewis Castle which was read at a meeting of the Wisbech Natural History Society. It is a thoughtful and excellent production, the outcome of a wide field of observation as well as of exact knowledge gained in the Duke of Bedford's experimental station at Ridgmont. Mr. Castle reminds us of the statement that from 1883 to 1890 over 22½ millions of bushels of Apples were imported into this country, of a gross value of £6,000,000 sterling, while in the succeeding years, 1890-1898, the imports had increased to 33 million bushels, valued at nearly 9½ millions sterling. If there is no mistake in these figures our shortage in the fifteen years amounted to 55½ million bushels, value 15½ million pounds.

Seeing that there has been a great increase in the acreage of home-grown fruit during the period named, and time for thousands of trees to come into profitable bearing, we have striking evidence of the increase in the consumption of fruit in this country, an increase which is bound to continue. There is thus ample room for extended cultivation, and when this is conducted intelligently, and the best methods of distribution are practised, "a living and something more," as observed by Mr. Castle, is to be made by the production of hardy fruit in the United Kingdom. But he rightly intimates that this is not to be done by everybody and anywhere. As a matter of fact, losses have been incurred by men who have been induced by sensation mongers to rush into the work without knowledge, and injury is done by the checks thus given to the extension of an important industry.

A few points to bear in mind in connection with our prospective home supply of hardy fruit are: 1, choose sites, soils, and varieties wisely; 2, prepare the land thoroughly, plant properly, and prune scientifically—which means on simple common-sense principles; 3, cultivate thoughtfully, intelligently, not forcing the trees by overmanuring when young, and starving them by lack of nourishment when bearing heavily; 4, prevent insect and fungoid attacks by early action in spraying; 5, thin the fruits when thickly clustered on the branches, especially on weakly growing trees; 5, gather and sort carefully, pack firmly and honestly. Then may satisfactory results be expected to follow. This is in concise form the advice of the *Journal of Horticulture* at the beginning of the planting season of 1899.

SHOWS.

TAUNTON.—OCTOBER 31ST AND NOVEMBER 1ST.

THE Taunton Deane Horticultural Society has held many successful summer shows in this town in the past, therefore it was a happy thought to resuscitate the Chrysanthemum Show, which had lapsed for ten years. The initial venture held on the dates named was a success. If the exhibits were not especially numerous they possessed much quality, making in the whole a pleasing display, and one that augurs well for the future.

The principal class in the comprehensive schedule of prizes was that for thirty-six Japanese blooms, distinct, for which a silver challenge cup, value 10 guineas, along with a good money prize, was offered; in addition to this cash prizes for other winners were contained in the schedule. Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Langport, Somerset, secured the coveted award for a grand set, of which the following were the most noteworthy—Duke of Wellington, Rose Wynne, Madame Louis Remy, Edith Tabor, International, Pride of Exmouth, Elthorne Beauty, Mrs. G. W. Palmer, G. J. Warren, Madame Carnot, Julia Scaramanga, Swanley Giant, Wm. Bardney, Madame G. Bruant, and Mrs. W. Mease. The smaller classes in the Japanese section were well filled, the exhibitors staging really creditable examples. In the classes set apart for incurved blooms there was only moderate competition.

A handsome blossom of Mrs. W. Mease belonging to Mr. Lloyd in his challenge cup stand was selected as being the premier bloom in the show, and to which was awarded the certificate of the N.C.S., an honour which it doubtless deserved.

Miss E. Broadmead was the most successful competitor in the group of Chrysanthemums, quality of blooms to be the leading feature. Plants of such varieties as Mrs. Mease, Australian Gold, Edwin Molyneux, and Pride of Madford carried exceptionally handsome blooms. The arrangement too was deserving of praise; as a rule the plants in groups of Chrysanthemums are far too much huddled together, so that they lose all individuality. Mr. W. E. Cousens secured the premier award in the class for a group of miscellaneous plants arranged for effect.

Apples made a great display. Non-competing collections were not numerous but interesting, adding much to the beauty of the show. Mr. W. J. Godfrey, Exmouth, had a pleasing exhibit of new Chrysanthemums. *Artaxarxes*, a new yellow, was especially noticeable, as were Reginald Godfrey, Le Grand Dragon, and Autumn Glory. Messrs. R. Veitch and Son had a pleasing collection of Chrysanthemums, Apples, and a really fine exhibit of Violets.

TORQUAY.—OCTOBER 31ST AND NOVEMBER 1ST.

THE Torquay District Gardeners' Association held its fifth annual Chrysanthemum and Fruit Show on Tuesday and Wednesday, October 31st and November 1st. The groups of Chrysanthemums were very good, the chief prize being obtained by Mr. E. Pople, gardener to the Rev. A. B. Wrey. The blooms in this collection were fine, *E. Molyneux*, *Phœbus*, and *Vivand Morel* being splendidly shown. Mr. J. Aggett, gardener to Dr. Hamilton Cumming, was a good second with slightly inferior blooms. In the cut flower classes Mr. C. R. Prowse, gardener to Dr. W. Ford Edgelow, secured the first prize for thirty-six Japanese, this award also including the National Chrysanthemum Society's silver medal. Mr. Howard, gardener to G. Furneaux, Esq., was second; and Mr. T. Hill, gardener to Rev. H. Hutchins, third. The competition in vegetables was very keen, Mr. F. E. Peacock, gardener to P. W. Bushby, Esq., being first in the collection. Fruit was also well represented, the chief honours being secured by Mr. T. Warren, gardener to the Dowager Lady Haldon.

Table decorations and *epergnes* formed a show of themselves. Mr. J. Davis was first in the former class with a light arrangement of yellow and white. Mr. I. House, of Westbury-on-Trym, exhibited Violets; and Messrs. Edwards & Son, of Nottingham, specimens of their Edwardian ware. The local trade was, as usual, well represented. Messrs. R. Veitch and Son showed an interesting collection of plants and fruit, as also did Messrs. Curtis, Sanford & Co., Ltd. The other honorary exhibitors were Messrs. W. Allward, W. Burrigge & Sons, G. H. Pearce, Brooking Bros., Torquay Technical Gardening Class, and W. B. Smale, F.R.H.S., the latter exhibiting an attractive group of Chrysanthemums, including Madame Edmund Roger, Chrysanthemiste Bruant, C. Hooper Pearson, and other new varieties.

The Royal Hungarian Ladies' Orchestra gave afternoon and evening performances on both days. The exhibition was opened by the Mayor and Mayoress of Torquay (Mr. and Mrs. W. Beavis), accompanied by the President (Dr. R. Hamilton Ramsay) and a number of local gentry. The show was largely attended on both days, the arrangements being carried out by Mr. F. C. Smale (Hon. Secretary) and a working Committee of twelve gardeners.

WOLVERHAMPTON.—OCTOBER 31ST, NOVEMBER 1ST AND 2ND.

THE sixth annual Chrysanthemum, Fruit, and Vegetable Show was held on the above dates, and was in some respects an advance on any of its predecessors, more especially in the cut flower classes. The arrangement of the exhibits reflected much credit on Messrs. Wheeler and Bradley, the respective Secretary and Chairman, and other members of the Committee. There was an excellent show of Apples and Pears, also Grapes and vegetables.

For a group of Chrysanthemums, not to exceed 12 feet by 8 feet, £4 and a silver cup, valued at £10, were offered as the first prize. There were three entries, and Mr. G. Bradley, gardener to Miss Perry, Wergs Hall, secured the coveted premier award, and Mr. W. Shingler, gardener

to T. G. Baker, Esq., Compton, came in for second honours in a very close contest—thus reversing the order of winning in the contest last year. Mr. Bradley was again to the front for a group of Chrysanthemums and foliage plants, not to exceed 9 feet by 6 feet. Mr. J. F. Simpson, gardener to C. T. Mander, Esq., Wightwick Manor, was accorded the second prize, and Mr. J. Minton, gardener to E. Sanders, Esq., Oaken, the third prize. For single specimen plants the chief prizewinners in the several classes were Messrs. W. Shingler, J. F. Simpson, J. Hughes, Tettenhall Wood; J. Minton, and J. E. Knight, Wolverhampton.

The leading feature of the Show was undoubtedly the cut Japanese and incurved Chrysanthemums, which excelled the exhibits of last year. There were seven in the class for thirty-six Japanese, distinct, and the display would have been worthy of a high position at any show in the kingdom. The premier award of £4 and a silver cup, value £5, was secured by a new competitor, Mr. F. Vallis, Bromham Fruit Farm, Wilts, for a grand complement of blooms of Madame Bruant, Soleil

Rose Owen, Madame Darier 2, Empress of India, Topaze Orientale, Violet Tomlin, and Mrs. N. Molyneux. The second prize was secured by Mr. J. H. Goodacre with good blooms; the third by Mr. R. Jones, gardener to C. A. Smith Ryland, Esq., Barford Hill, Warwick, for a stand of fresh and compact blooms; and the fourth fell to Mr. F. G. Foster, Brockhampton Nursery, Havant. Altogether it was a keenly contested class.

For twelve blooms Mr. Goodacre was to the fore with fine examples, comprising C. Curtis, Lord Wolseley, Ernest Cannell, Perle Dauphinoise, N. Molyneux, Dorothy Foster, Topaze Orientale, Rose Owen, James Agate, Mons. R. Bahuant, and Globe d'Or. For twelve blooms Japanese Mr. Goodacre was again victorious; the second prize going to Mr. G. Grimmer, gardener to W. G. Phillips, Esq., Berwick House, Shrewsbury; and the third to Mr. F. Vallis. For the premier Japanese Chrysanthemum Mr. J. G. Hunt won with a splendid bloom of Mrs. W. Mease.



FIG. 75.—CATTLEYA EUDORA MADAME ALBERT HYE.

d'Octobre, fine; Robert Powell, Mr. W. Popham, excellent; Mr. A. Barnett, Madame P. Rivoire, Gustave Henri, Louis Brazillon, Le Grand Dragon, very fine; Lady Ridgway, good; and the Teichman, Louise, Pride of Exmouth, Colonel Smith, Souvenir de L. Rosetti, J. Lewis, Mons. Hoste, Australian Gold, fine; Pride of Madford, C. B. Haywood, Miss Underhay, Mutual Friend, Fair Maid, Mons. Chenon de Leché, Graphie, E. Tabor, Mrs. J. Beisant, fine; T. Carrington, Jane Molyneux, Emily Towers, Phcebus, Mrs. Mease, E. Molyneux, N. Pickett, Madame Carnot, fine; and Mr. Combes. The second prize was awarded to Mr. J. H. Goodacre, Elvaston Castle; the third prize going to Mr. S. Cole, gardener to Earl Spencer, Althorpe Park; and the fourth to Mr. G. T. Hunt, gardener to Pantia Ralli, Esq., Ashted Park, Epsom, another new exhibitor.

The display of incurved, in not less than eighteen distinct, or more than two of any variety, was also most excellent, and comprised six exhibits, the coveted prize falling to Mr. G. Hunt for Duchess of Fife 2, excellent; D. B. Crane 2, Mons. R. Bahuant 2, Mrs. E. Molyneux 2, C. H. Curtis 2, and Globe d'Or 2, were all grand blooms; Ernest Cannell 2, Queen of England, Mons. Desblanc 2, John Lambert 2, M. P. Martignac 2, Lady Isobel 2, Mrs. R. C. Kingston, Jeanne d'Arc 2, Brookleigh Gem 2, Empress of India, King of Yellows, Robert Petford 2,

The Chrysanthemum local classes were well represented, and for twelve blooms of Japanese distinct on long stems, tastefully arranged, the first prize was awarded to Mr. J. F. Simpson; and the second to Mr. J. Minton. For twelve blooms incurved, distinct, Mr. A. Hales was awarded the first prize, the only exhibitor; and for twelve Japanese distinct, Mr. H. Webster, Curator of Wolverhampton West Park, was accorded the first prize with a splendid stand; the second falling to Mr. J. F. Simpson, and the third to Mr. J. Cotterill.

Bouquets and epergnes were a pleasing feature, and for three ladies' sprays of Chrysanthemums and ornamental foliage, Mr. J. Park, gardener to J. Roberts, Esq., Peamore, secured the first prize; Messrs. Jones and Son, Shrewsbury, the second; and Mr. G. J. Knight the third. For an epergne of Chrysanthemums and ornamental foliage, Messrs. Jones and Son were the only exhibitors, and were awarded the first prize for a very tasteful arrangement. For a hand bouquet of flowers, Messrs. Jones & Son were placed first, and Mr. R. Lowe, Wolverhampton, second, both with artistic examples; and Mr. J. E. Knight also an artistically arranged bouquet of Orchids and Roses not for competition. The last named exhibitor also put up a highly attractive arrangement of floral wreaths, crosses and bouquets, as also did Mr. R. Lowe, both exhibits being of no ordinary merit. For a floral display of Chrysanthemum

blossoms, arranged on tables by ladies, the first prize was secured by Miss A. L. Lowe, and the second to Miss Lowe of Tettenhall, Wolverhampton, both with artistic arrangements. It is with much reluctance that a detailed description of the very fine examples of Grapes (Muscats especially), Apples and Pears is withheld, owing to the exigencies of space. Vegetables also were worthy of equal note, the competition for Messrs. Webb and Sons' prizes being very keen.

Messrs. T. B. Dobbs & Co., Wolverhampton, had an attractive exhibit of hardy plants and flowers, and Messrs. Edwards their Edwardian rustic table decorations. Messrs. J. E. Knight, R. Lowe, and T. B. Dobbs and Co. offered prizes for collections of vegetables.

EXMOUTH.—NOVEMBER 1ST.

A ONE day's Show instead of two was tried this year, and the Committee believe the financial result will prove an improvement on the two days' affair. Prizes were offered in seventy-eight classes, most of which were well filled. For thirty-six Japs, open, the first prize fell to H. H. Spencer, Esq., Teignmouth (gardener, Mr. G. Foster); second, Mr. G. Drake, Cardiff; third, Vincent Stuckey, Esq. (gardener, Mr. Lloyd); a close competition. For twelve blossoms, Japs, Col. Lloyd (gardener, Mr. Hitchcock) was successful in beating the western champion, Mr. Geo. Foster, who had to be content with the second position. For twelve incurred Mr. H. Hammond Spencer went ahead, and he was also successful in winning the first prize for twelve blossoms in a vase; Mr. Hitchcock here taking second.

Groups were well shown, the first prize being taken with an arrangement containing some excellent plants, which was put up by General Rooke, C.B.; second, Robert Long, Esq. Semicircles.—First, A. F. Terrel Shapland, Esq. (gardener, Mr. Landon) a fresh-looking and handsome collection of plants; second, H. Hodgson, Esq. Some well grown Ferns, shown by Mr. Ide, gardener to J. Gordon, Esq., were successful in carrying off the two first prizes.

Fruit was well shown. Grapes, Alicante.—First, Rev. H. Clerk (gardener, Mr. R. Pike); second, Mr. G. W. Matthew. Muscats.—First, Rev. H. Clerk; second, Mrs. Forbes. The principal prizewinners in the other classes were, R. Ley, Esq., Miss Pinckney, General Rooke, G. Goldney, Esq., R. Long, Esq., Mrs. Gressnell, Mr. H. Lever, and Rev. H. Clerk.

A good collection of stove plants and fruit was shown from the famous Bicton Gardens (gardener, Mr. Mayne). The Alicante Grapes were excellent. The collection of fruit contained some magnificent specimens of Apples, Peasgood's Nonesuch, Alfriston, and American Mother Apples, nice Melons and Pines. Mr. W. J. Godfrey occupied the whole of one end of the large hall with an exhibit covering over 450 feet of space, and certainly the finest this firm has ever made at this show. Chrysanthemums were well shown, mainly in decorative varieties. A large display of Zonal Pelargoniums, Cannas, and other flowering plants was very attractive. To give an idea of the mildness of the climate no less than thirty varieties of Cactus Dahlias in large bunches of each were included among the cut flowers. The whole was edged with sixty dishes of well grown Apples, which had a good effect upon the display.

DORKING.—NOVEMBER 1ST AND 2ND.

A BRIGHT and attractive show was that held at the Public Hall on the above dates. Groups and cut blossoms were up to a good standard, and several non-competitive exhibits, notably the Bertolonias from Burford Lodge, and the well-grown plants of Begonia Gloire de Lorraine from Deepdene.

For a group of Chrysanthemums of 50 feet the first prize went to Mr. Geo. Kew, gardener to R. Barclay, Esq., Bury Hill. This was well arranged, and contained plants with excellent blossoms. Second, Mr. B. T. Kingsley, gardener to Mrs. Gough Nichols, Holmwood Park. In a group of miscellaneous plants the same exhibitor gained first prize with a most tastefully arranged exhibit.

In the leading class for cut blossoms, twelve Japanese and twelve incurred, Mr. F. King won with a fresh handsome exhibit. The varieties were Japanese: R. H. Pearson, Madame Carnot, Australie, Mrs. Mease, Mrs. White Popham, Chas. Davis, G. J. Warren, Lady Hanham, Mrs. H. Weeks, Edith Tabor, Pride of Madford and Mrs. J. Lewis. Incurred: Lady Isobel, Mrs. G. Williams, Chrysanthème Bruant, Duchess of Fife, E. Cannell, Globe d'Or, Ma Perfection, Dome d'Or, Miss V. Foster, Yvonne Desblanc, M. Desblanc and King of Yellows. Second, Mr. Kingsley, in whose stand were fine blossoms of E. Molyneux and Mrs. Coombes. For twelve Japanese Mr. F. King was again first, the second prize going to Mr. W. Bain, gardener to Sir Trevor Lawrence. In this stand the premier bloom was selected—a grand high-coloured flower of Pride of Madford.

For six distinct, the lead was taken by Mr. J. Daniels, gardener to F. S. Phillips, Esq., Sunnyside; second, Mr. H. Wright, gardener to Carr Saunders, Esq., Milton Heath. In the class for six Japanese, one variety, Mr. Kingsley and Mr. King were first and second respectively, with Mrs. W. Mease, in capital form. For twelve incurred in the order of prizetaking was reversed by the two last-named exhibitors. In the class for a vase of blossoms, not to exceed 3 feet in height, Mr. Bain gained the first place with a bold arrangement. Second, Mr. A. Alderman, gardener to C. Czarnikow, Esq., Effingham Hill House. Third, Mr. Kew. Messrs. Alderman, Kew, and H. Squelch, gardener to W. Ellis, Esq., Hazelbourne, were most successful with Grapes, Apples and Pears.

A group of well-grown Chrysanthemums, not for competition, came from Mr. J. Chamberlain, gardener to the Duchess of Marlborough, Deepdene.

ISLE OF WIGHT.—NOVEMBER 1ST AND 2ND.

THE Cowes Horticultural Improvement Association held its first exhibition of Chrysanthemums in the Foresters' Hall on Wednesday and Thursday last. The exhibition was opened by Mrs. Godfrey Baring in the presence of a large assembly. For specimen plants Mr. W. E. Wickens, gardener to R. R. Pittis, Esq., J.P., of Newport, secured the leading awards. In the classes for cut blossoms the chief prizewinners were Messrs. M. Silsbury (Shanklin), C. H. Snook (Shanklin), F. Miller (East Cowes), A. Hills (East Cowes), J. Love, J. A. Oatley, H. Fry and C. E. Creighton. For table decorations, in which class there was keen competition, Miss Mullet (Northwood) secured the premier award with a tastefully arranged and seasonable exhibit.

Some exceptionally fine Chrysanthemums, including Mrs. White Popham, Mutual Friend, President Bevan and several promising seedlings were staged by Mr. Martin Silsbury. There were numerous non-competitive exhibits which added to the success of the show, including a group of plants from Mr. A. Hills, Grove Nursery, East Cowes; Cactus Dahlias from Mr. R. Saunders, Cowes Nursery; Chrysanthemums from Messrs. W. Wells & Co., Earlswood Nursery; collection of fruit from Messrs. W. H. Rogers & Son, Limited, of Southampton; group of plants from Mr. A. Saunders, gardener to Lady Harrington, Stanhope Lodge, Cowes, and a honey exhibit from Mr. F. D. Hills, of East Cowes. The Isle of Wight Horticultural Improvement Association certificates were awarded to the above gentlemen for their respective exhibits.

PORTSMOUTH.—NOVEMBER 1ST AND 2ND.

THE thirteenth annual autumn exhibition was held in the Town Hall, which is a splendid site for such a display. The exhibition in question was remarkable for the quality of the incurred blossoms. It was pleasing to see so fine a display of this section, not only in the leading open classes, but throughout the show generally. The arrangements were as usual excellent in the hands of an efficient Committee, so ably led by Mr. H. Berry, the Hon. Secretary.

Cut blossoms receive the largest share of encouragement. The principal class was that for twenty-four incurred, and a similar number of Japanese, in not less than eighteen varieties in each section, or more than two of any one variety. £7 was offered for the first prize, which brought four entries. Mr. C. Penford, gardener to Sir F. Fitzwygram, Bart., M.P., Leigh Park, Havant, won the premier award by the quality of his incurred blossoms, which were heavy, fresh, and well staged. The Japanese were a trifle weak as compared to the second prize stand, still heavy enough to assist in securing the coveted position. The varieties were: Japanese—Mrs. J. Lewis 2, large; Mrs. W. Mease 2, Master H. Tucker, Mad. Carnot, Etoile de Lyon, Col. B. Smith, Mrs. Barka, Mad. G. Bruant, Soleil d'Octobre, Mrs. C. H. Payne, Phœbus, Australie 2, Mad. G. Henri, Vivand Morel 2, Mrs. Weeks, Robert Powell, Mona, Hoste, Lady Hanham, Mr. Jones, and Edith Tabor. Incurred.—Duchess of Fife 2, Globe d'Or 2, excellent; Mrs. R. C. Kingston, Lady Isobel, Miss D. Foster, M. Bahuant 2, Miss V. Foster 2, Rose Owen, Ma Perfection, Madame Ferlat, Triomphe d'Eve, Mr. J. Murray, Madame Darier 2, Violet Tomlin, Brookleigh Gem, C. H. Curtis, Rena Dula, Jeanne d'Arc, and R. Petfield. Mr. G. J. Hunt, gardener to Pantia Ralli, Esq., Ashstead Park, Epsom, was a good second with heavy Japanese, but he had not the quality of the incurred in the premier stand. Mr. F. G. Foster, Brookhampton Nurseries, was third, and Mr. J. Agate, Havant, fourth.

In the class for twenty-four Japanese in not less than eighteen varieties there was a spirited display. Mr. Agate secured the leading award with grand blossoms, well staged. Florence Molyneux, Mrs. W. Mease, Lord Ludlow, Madame G. Bruant, Madame Carnot, Miss Ethel Pilkington, and G. J. Warren were the most noteworthy. Mr. C. Penford and Mr. Hunt followed in the order here given. In the incurred section for twenty-four blossoms, Messrs. Penford, Hunt, and Agate shared the prizes in the order given, all staging creditably.

Many classes were devoted to growers in Portsea Island only. For twenty-four Japanese there was brisk competition. Mr. F. T. Steptoe, gardener to T. Williams, Esq., St. Andrews, Portsea, was an easy first; Mr. W. G. Adams, Clarendon Road, Southsea, second; Mr. A. Newell, gardener to J. Sladden, Esq., Dorset House, Portsea, third. Mr. Newell won for twelve Japanese with a good exhibit; Mr. Steptoe a close second. In the incurred section Mr. Adams secured the premier place with neat, if small, blossoms of leading varieties; Mr. C. White, St. Vincent Road, Portsea, second.

Amateurs staged remarkably well. In the class for twelve Japanese, in not less than eight varieties, there was brisk competition. Mr. H. H. Lees, 54, Cedar Road, Southampton, was an easy first with an excellent stand of blossoms. Mr. T. Lloyd, Drayton Road, North End, Portsmouth, was second, and Mr. Crookford, Portsmouth, third. In a similar class, devoted to Portsea Island only, Mr. J. Nance, New Hampshire Street, Kingston, Portsmouth, won the premier award with a really good exhibit.

Groups of Chrysanthemums were neither numerous nor of exceptional merit. In the open class Mr. Foster led the way with a somewhat heavy arrangement. Mr. W. Cheator, gardener to Sir W. Pink, Shrover Hall, Cosham, was second. In a similar class, confined to Portsea Island, Mr. Joyce, gardener to Captain H. J. Lancaster, St. George's, Campbell Road, Portsea, was first with a creditable arrangement. One of the best groups in the show was that arranged by Mr. E. Harvey, 63, Hanover Road, Portsea, in the class for amateurs. Fruits and vegetables were numerous and good; space, however, forbids a detailed report. In the non-competitive section Mr. Hillier, nurseryman, Winchester, staged five doses

dishes and baskets of Apples of excellent quality, especially rich in colour. Mr. Cousens, Swanwick Nursery, Southampton, had an interesting display of Apples and Pears.

BIRMINGHAM.—NOVEMBER 2ND AND 3RD.

ENCOURAGED by the success attending a vegetable show organised last year in the Masonic Hall, Mr. Robert Sydenham was prompted to extend his operations this year—the venue of the show being the Town Hall—by adding flower and fruit classes. The display of Chrysanthemum cut blooms was remarkably fine, many of them being of immense size and fine quality. For twelve Japanese blooms, distinct, Mr. A. Chandler, gardener to Mrs. A. James, Rugby, was awarded the first prize; Mr. J. H. Goodacre, Elvaston Castle Gardens, was second; and the remaining four prizes were awarded respectively to Mr. H. Blakeway, gardener to Philip A. Muntz, Esq., Rugby; Mr. T. Wilkins, gardener to Lady Theodore Guest, Blandford; Mr. A. Jenkins, gardener to A. W. Wills, Esq., Erdington; and Mr. R. Jones, gardener to C. A. Smith Ryland, Esq., Barford Hill, Warwick. For six Japanese blooms, distinct, Mr. F. Biddle, gardener to A. Heaton, Esq., Handsworth, was first with a good stand; and Mr. A. Cryer, gardener to J. A. Kendrick, Esq., Edgbaston; Mr. S. Gibbs, gardener to J. B. Manley, Harborne; Mr. Seaton, gardener to H. R. Padmore, Esq., Moseley; Mr. W. A. Garnons, Moseley; and Mr. C. Thomas, gardener to C. A. Palmer, Esq., Handsworth, followed.

A commendable feature was the class for six varieties Japanese, distinct, three blooms of each, set up in vases, with stems not less than 12 or more than 18 inches long. The first prize was secured by Mr. J. H. Goodacre, the second prize going to Mr. A. Chandler. Prizes were also offered for groups of cut Chrysanthemums and groups in pots, for which there were several attractive exhibits.

Fruit was extensively shown, and for a collection of not less than twenty or more than thirty dishes, Mr. S. Cole, gardener to Earl Spencer, Althorpe Park, gained the coveted prize. Mr. W. J. Empson, gardener to Mrs. Wingfield, Amphil, Beds, was second; and Mr. J. Read, Brethry Park, third. Numerous prizes were offered for vegetables, of which there was a fine display.

Amongst non-competitive exhibits Messrs. Perkins & Sons, Coventry, staged bouquets, baskets of flowers, wreaths, and crosses; Rowe & Sons, Worcester, H. Berwick, Sidmouth, and Manger & Son, Guernsey, Apples and Pears; W. J. Godfrey a large assortment of cut Chrysanthemums artistically arranged; and R. Sydenham forced Lily of the Valley. The silver challenge cup, value £15, for the highest number of points in the open classes was won by Mr. H. Folkes, gardener to C. E. Struan, Esq., Gaddesden Park, Hemel Hempstead. The local silver challenge cup, value £10, was again won by Mr. S. Gibbs, gardener to J. B. Manley, Esq., Harborne.

HIGHGATE.—NOVEMBER 2ND AND 3RD.

THE fifteenth exhibition was held in the Northfield Hall, and although the competition in some of the classes was not so keen as it might have been, the hall and tent were quite full. The quality of the exhibits was well up to the average. The decorative classes were quite a feature, but pressure on our space forbids a detailed account.

There were two entries for a group of Chrysanthemums to occupy a space of 60 feet, and the first prize and silver medal were awarded to Mr. J. Brooks, gardener to W. Reynolds, Esq., The Grove, Highgate, for a capital group. The plants were dwarf and well arranged, with perhaps a suspicion of crowding. Mr. G. Saunders, gardener to W. Hayes, Esq., Highgate, was second, utilising plants of the decorative type. For trained plants Messrs. J. Brooks, H. Tilbury, gardener to C. E. B. Young, Esq., and G. Saunders were successful.

In the class for eighteen Japanese and a similar number of incurved, there were three competitors, and the first prize was awarded to Mr. A. Jones, gardener to Miss Wyburn, Hadley Manor, Barnet, for a strong exhibit. The Japanese were Mons. Panckoucke, Chatsworth, Lady Hanham, Australia, Madame G. Brunt, Madame G. Henry, Lady Ridgway, Madame L. Broailion, Edith Tabor, Miss A. Jones, N.C.S. Jubilee, Phœbus, Mrs. C. H. Payne, Mrs. G. Palmer, Monsieur M. Ricoud, E. Molyneux, Mutual Friend and Pride of Madford. The incurved varieties were Mrs. A. Molyneux, Mrs. R. C. Kingston, Empress of India, Lady Isabel, Topaze Orientale, Chas. H. Curtis, Violet Tomlin, Madame Darier, Mons. Desblanc, Ma Perfection, Lord Wolseley, Perle Palace, Princess of Wales, Rose Owen, Jeanne d'Arc, D. B. Crane, Madame F. Mistral and Lucy Kendall. Mr. S. Foster, gardener to R. Nivison, Esq., Hendon, was second with good Japanese, while his incurved were not sufficiently open, and Mr. J. Sandford, gardener to G. Wright-Ingle, Esq., North Finchley, third.

For twenty-four Japanese, in not less than eighteen varieties, Mr. J. Brooks, gardener to W. J. Newman, Esq., Totteridge Park, was the only exhibitor, and was awarded first prize for a good exhibit. Four exhibitors staged in the class for twelve blooms, Japanese, yellow, in one or more varieties, and an excellent class it made. The first place was allotted to Mr. J. Brooks, Totteridge, for a grand dozen of Edith Tabor, Oceana, and Phœbus. Mr. A. Page was a good second, while Mr. J. Sandford brought up the rear.

For twelve Japanese blooms, distinct, there were four entries, but Mr. J. Brooks, Totteridge, was first. Mr. J. Sandford was second and Mr. S. Foster third. In the class for six white Japanese blooms, distinct, there were five competitors, and the first prize was awarded to Mr. J. Brooks, Totteridge. Mr. J. Sandford was second. For six blooms Japanese, one variety, white excluded, there were four exhibitors, but Mr. S. Foster was easily ahead with some grand Australia, followed by Mr. J. Brooks,

Highgate, with good Phœbus, and Mr. J. Sandford was third with Mr. G. W. Palmer.

The incurved section was strongly in evidence, there being four entries for twelve blooms in six varieties. The first prize was well won by Mr. A. Jones. The varieties were Chas. H. Curtis, Rose Owen, Madame Darier, Perle Dauphinoise, Jeanne d'Arc, and Madame F. Mistral. Mr. A. Page followed with flatter flowers, while Mr. H. Tilbury secured third place. For six blooms, one variety, Mr. S. Foster was first for a good box of Globe d'Or; Mr. H. Tilbury was second with Mr. Jas. Murray; and Mr. A. Jones third with Rose Owen.

The Pompons are always a feature at this show. In the open class for twelve triplets Mr. T. L. Turk was first with good examples of William Sabey, Pygmalion, William Westlake, and Mdlle. Elise Dordan, and Mr. E. H. Chitty was second; in the members' classes these exhibitors were again placed in the same order. The class for twelve blooms arranged with Ferns, Grasses, and other foliage, proved a great attraction, and the first prize was awarded to Mr. S. Foster for a well displayed exhibit, disposed in Adiantums, Crotons, and Grasses. Mr. J. Brooks, Totteridge, was a good second, and Mr. J. Adams, gardener to E. H. Smithett, Esq., Fitzroy Park, third.

Messrs. W. Wells & Co., Ltd., Earlswood, Red Hill, exhibited a board of cut Japanese blooms, chiefly new varieties, and a small collection of decorative varieties. Messrs. W. Cutbush & Son, Highgate, had a collection of large Palms and other decorative plants. Messrs. B. S. Williams & Son, Upper Holloway, also arranged a number of plants of a similar type.

WEYBRIDGE.—NOVEMBER 2ND AND 3RD.

THE first exhibition of the newly-formed Gardeners' Mutual Improvement Society took place in the Village Hall, and a most attractive display was on view, but its success was somewhat marred by an unusually wet first day.

A group of Chrysanthemums was a leading feature, the first prize going to Mr. J. Lock, gardener to C. Swinfen Eady, Esq., for an arrangement of a beautiful and unusual character. Japanese, Pompon, and single varieties were intermixed, the former placed the most prominent, the others forming a graceful groundwork. Second, Mr. E. Matford, gardener to A. J. Rhodes, Esq. The first prize group for single-handed gardeners came from Mr. Pagram, gardener to J. Courtenay, Esq.

The open class for twenty-four Japanese blooms brought a capital stand from Mr. Lock, which led. The varieties were, Mrs. White Popham, Madame Carnot, M. Ed. André, Mrs. W. Mease, Jas. Bidencope, G. J. Warren, Mrs. G. W. Palmer, Australia, Lady Hanham, M. Demay Taillandier, Pride of Exmouth, Secrétaire Fierens, Madame Gustave Henry, M. Chenon de Leché, Vivian Morel, Nellie Pockett, Mrs. D. Dewar, Elthorne Beauty, M. Panckoucke, Beauté Grenobloise, Madame G. Brunt, Edith Tabor, Emily Silsbury, and John Neville. Second, Mr. T. Caryer, gardener to A. G. Meissner, Esq. For eighteen Japanese blooms the order of prizes went the same way. For six of one variety Mr. Caryer led with fine blooms of Mrs. Mease. Classes for incurved were not well filled, or of note, if we except half a dozen blooms of Topaze Orientale from Mr. Caryer.

Single-handed gardeners exhibited good blooms. Mr. W. Stedman, gardener to H. F. Burke, Esq., was placed first in twelve. This stand had fine specimens of Col. W. B. Smith and Phœbus. Second, Mr. W. Shute, gardener to F. Machin, Esq. In the class for six Mr. Pagram came first, Mr. Stedman following.

A tray of 3 feet by 2 feet 6 inches of cut Chrysanthemums with Ferns and other foliage for effect proved interesting. Mr. Watford won first prize, the second being obtained by Mr. W. H. Prothero, gardener to Miss Green. An effective desert table was arranged by Miss Charlotte Scott. Second, Mr. J. Lock, who had his table a bit crowded.

EVESHAM.—NOVEMBER 3RD.

THE thirteenth annual exhibition of Chrysanthemums was held in the Town Hall on the above date. Competition was very close in many classes, and nearly all the exhibits were of high quality. On the whole the show was the best of the series. The classes for cut flowers were well filled, likewise those devoted to fruit and vegetables. One of the features of the latter division were the strings of Onions, 3 feet long. They are very effective when shown in such manner.

There were only two groups of Chrysanthemums, the first prize carrying with it a challenge cup of the value of 8 guineas. This was secured by Isaac Morris, Esq. (gardener, Mr. A. Harrison), with a very nice group of well-flowered plants, somewhat stiffly arranged. Second, Miss E. W. Burlingham (gardener, Mr. W. Martin), who had good flowers, but the front of the group, as is often the case, was badly finished.

In the cut flower section, for twenty-four Japanese, distinct—first, the Dowager Lady Hindlip, Hadsor Hall, Droitwich (gardener, Mr. C. Crookes), with a very fine and bright stand. The varieties were:—Back row: Phœbus, Madame Gustave Henry, Australia, Madame Louis Remy, Mrs. G. W. Palmer, G. J. Warren, Madame G. Brunt, and Madame Carnot. Middle row: Queen of Portugal, Mrs. W. Popham, Pride of Madford, Mrs. Mease, Mons. Leiche, Simplicity, and Edith Tabor. Front row: Lady Hanham, Nellie Pockett, Charles Davis, Mrs. G. W. Barks, Secrétaire Fierens, Oceana, Lady Ridgway, and Vivian Morel. Second, Mr. J. Vallis, Chippenham; closely followed by Lady Northwick (gardener, Mr. Hillier), Blockley.

For twelve Japanese, distinct.—First, Mr. Witta, with massive and fresh flowers; second, Lady Northwick. Twelve incurved, distinct.—First, C. A. Smith Ryland, Esq. (gardener, Mr. R. Jones); second, C. W. Twinbarrow, Esq. (gardener, Mr. J. Martin).

Fruit was well shown. For six plates Apples, culinary, distinct.—First, Mr. C. Wyatt, Harpington, Evesham, with superb specimens of Bramley's Seedling, Lord Derby, The Queen, Golden Noble, Newton Wonder, and Lane's Prince Albert; second, Mr. H. Russell, Hindlip, Worcester, with an excellent exhibit. Six plates Apples, dessert, distinct.—First, Lady Northwick; second, Mr. H. Russell. Six plates Pears, dessert, distinct.—First, Mr. Russell; second, Alfred Erpley, Esq. (gardener, Mr. Humphries).

For a basket of vegetables, not to exceed 3 feet in diameter.—First, T. W. Twinbarrow Esq., with a splendid collection; second, Miss E. M. Burlingham. Collection of vegetables, six varieties.—First, Mr. Lampitt, with a very fine collection. String of Onions, 3 feet long.—First, Lady Northwick; second, Mr. Lampitt. The Committee is to be congratulated on having a splendid show, second to none of its size.

BATTERSEA.—NOV. 3RD AND 4TH.

THE annual show of the Battersea Chrysanthemum Society was held in the Town Hall, and was probably one of the best the Society has yet held. The display in the open classes for Japanese was most meritorious, seven stands of eighteen varieties being in competition, each of which contained several good flowers. Cut flowers in other classes were also well shown. Groups, with the single exception of that composed of miscellaneous plants from Mr. McGregor, were not particularly artistic, though they comprised individual specimens of unquestioned merit. As is customary at Battersea, the judging was very late.

There were seven competitors in the class for eighteen Japanese, in not less than eight distinct varieties, and many were the excellent flowers. Mr. C. Payne, gardener to C. J. Whittington, Esq., Elmhurst, Bickley, was a fine first with a moderately heavy stand of beautifully coloured blooms. The varieties included Le Grand Dragon, Australie, Soleil d'Octobre, Mrs. White Popham, Phœbus, Mons. Chenon de Leché, Edith Tabor, E. Molyneux, Beauté Grenobloise, Pride of Madford, Mrs. H. Weeks, Wonderful, Jas. Bidencope, and Madame G. Debris. Mr. W. Howe, gardener to Sir H. Tate, Streatham, was a good second with a refined stand. The best flowers were Lady Hanham, Phœbus, Mrs. W. Mease, R. Hooper Pearson, Madame Gustave Henry, and Madame Carnot. Mr. A. Smith, The Convent Gardens, Roehampton, was third; and Mr. J. French, gardener to Mrs. Barclay, Wimbledon Park, fourth.

Mr. C. Payne was again first with twelve Japanese, showing a fairly good stand of Marie Calvat, Ed. Molyneux, Mrs. White Popham, Australie, Phœbus, Jas. Bidencope, Madame G. Debris, John Bridgman, Wonderful, Oceana, and Pride of Madford. Mr. W. Howe was a close second, and Mr. J. French third. The last named grower went ahead for six Japanese, distinct, with a highly creditable exhibit. The varieties were Mrs. J. W. Weeks, Lady Byron, Pride of Madford, Vivand Morel, Madame G. Debris, and Phœbus. Mr. W. Howe was second, and Mr. J. Brown, South Wimbledon, third. For six incurred the prize-winners were Messrs. C. Payne, J. French, and O. Bentley, gardener to Major Bosworth, Roehampton, in the order in which the names are here given.

In the amateurs' class for twelve Japanese, distinct, Mr. W. H. Riddle, Wandsworth Common, was an easy first with Mrs. J. Lewis, Mrs. G. H. Palmer, Mrs. White Popham, Australian Gold, Madame G. Remy, Mons. Chenon de Leché, Nellie Pockett, Hairy Wonder, Pride of Exmouth, Joe Chamberlain, Mrs. H. Weeks, and Charles Davis. In addition to the first prize Mr. Riddle secured Mr. Garton's silver cup. Mr. Hermann Kloss, Wandsworth, was second. For six Japanese Mr. H. Kloss was first; Mr. White, Battersea, second; and Mr. W. R. McLellan third. Mr. A. K. Matchin, Upper Tulse Hill, secured the Ryecroft medal for six Japanese in three varieties with a capital set.

For six blooms of any white Japanese Mr. W. H. White was first, and Mr. J. Daniel second. For six Japanese, two white, two pinks, and two yellows, Mr. J. Green went ahead, with Mr. J. O. Langrish second. There were several other classes of minor importance, and in which no blooms of striking merit were staged.

Mr. L. McGregor, North House, Putney Hill, arranged a most charming group of miscellaneous foliage and flowering plants. The well grown plants of Crotons, Palms, Dracæna Sanderiana, Ferns, Primulas, Bouvardias, Cyclamens, and others were so disposed as to preserve lightness and secure the best effect. The premier award was given to the exhibit. Mr. H. Boswell, gardener to Purnell Purnell, Esq., Streatham, took the second prize with a much duller arrangement. Mr. Wm. Forth, Wandsworth Common, was first for a group of Chrysanthemums, followed by Mr. J. Daniel. Mr. F. Wilkie was first for a smaller group, with Mr. A. W. Bolton in the second position.

Mr. J. Thorne, gardener to R. Garton, Esq., Worpleston, showed, not for competition, a stand of twenty-four Japanese, and amongst them were to be found some of the finest flowers in the hall. They had weight without coarseness, as well as brightness of colour. The best included Mrs. White Popham, Lady Byron, Elsie Teichman, Australie, Nellie Pockett, Lady Hanham, Marie Calvat, T. B. Haywood, Madame Carnot, Lord Ludlow, Mrs. J. W. Barks, and Oceana. Mr. R. Neal, Wandsworth Common, had a group of miscellaneous plants in the centre of the hall. There were numerous floral designs shown by various florists, not for competition.

FRENCH NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 3RD TO NOVEMBER 12TH.

ALTHOUGH this Society has now been in existence four years, we have never yet had an opportunity of visiting one of its shows, which are held in a different town each year, and in conjunction with the

autumn show of some local society. On November 3rd to 12th the Society held its fourth annual Show and Congress in Lyons. The programme was an attractive one, and upon the invitation of the French Society several members of the English N.C.S. went over to take part in the festivities, which, let it be said without any reserve, were of the most cordial and gratifying nature. The building in which the Show was held had a superficial area of something equal to that of the Royal Aquarium, but without any intervening obstruction.

Groups of plants in pots were numerous, and many of them were well flowered, dwarf in growth, and effectively arranged. The Municipal Department of Floral Culture for the City of Lyons set up a large oval group containing some fine blooms. Messrs. Rivoire had several groups. Messrs. Busy & Combe, Rozam, Bouchardat, Charmet, and others also competed for prizes in these classes, and the well-known Parisian firm of Vilmorin, Andrieux & Co. had a circular group in the middle of the show. M. Charmet had a large group of finely coloured plants of Marie Calvat, all bearing big blooms, and consequently making a striking display. Miscellaneous groups were also contributed. Grapes from Mons. H. Fatzer were excellent, and floral decorations superb.

Cut blooms, as is usual on the Continent, were not shown on boards as in England, but in glass bottles. It is a curious fact that on the Continent in what we consider the best classes there does not seem to be any definite standard of quality set up. In these classes the exhibitors often exceed the number of blooms required, and not infrequently set up exhibits in which both good blooms of fine size and form are mingled with others that are much below the average, and sometimes an exhibitor's collection is broken up in order to contribute to the general effect.

Novelties were staged by several exhibitors. Mr. W. Wells, of Earlewood, showed Janet, Lady Clark, Lord Ludlow, Lord Salisbury, and Silver Queen, already described in these pages, also some seedlings under number. There was a grand display from Mr. Ernest Calvat, whose blooms were immense and by far the finest in the whole show. M. Bonnefons exhibited fifty-four novelties. Besides Mr. W. Wells there was only one English exhibitor, Mr. J. Brooks, of Totteridge.

The festivities were of the heartiest nature, and such princely hospitality as the visitors from abroad enjoyed is not often to be found even on the Continent, where it is much more customary than at home. At mid-day on the first day of the show a luncheon was given to the Jury, which was presided over by M. Gérard, the eminent botanist at the University of Lyons. In the evening a grand banquet took place, and Mr. Viger, always genial, witty, and eloquent, presided with his usual ability. Some telling speeches were made, and the whole proceedings were of the most cordial nature.

The first meeting of the Conference was held in a large hall in the Palais du Commerce. M. Viger presided, there being a numerous company present. The subjects dealt with included the "Cross Fertilisation of the Chrysanthemum," by M. Gérard; "Insect and other Enemies," by M. Chiffot; "On Wintering Chrysanthemums," by various authors; and a discussion ensued. On the second day of the show the Conference met again at 9 A.M. to discuss the subjects remaining on the list. A smoking concert on the evening of the second day brought the festivities to a close.—C. H. P.

BRIGHTON.—NOVEMBER 7TH AND 8TH.

FEW societies can command so fine a place as the Royal Pavilion in which to hold a Chrysanthemum show, and that held on the above dates was a success in both extent and quality of exhibits. The groups were quite up to the fine standard expected at Brighton, the Japanese equally good, and fruits were seen of high colour and nice size.

A semicircular group, 14 feet by 8 feet, Chrysanthemums and other foliage plants, brought three entries. First, Mr. Geo. Miles, Victoria Nursery, Dyke Road, in which fine blooms and first rate arrangement combined to make a grand exhibit; second, Mr. J. Hill, gardener to W. Clarkson Wallis, Esq., Springfield, Withdean, not far behind; and third, Mr. Geo. Sims, gardener to E. A. Wallis, Esq., Sunnyside, Upper Lewes Road. The last-named exhibitors could not enter in the next class, that for a slightly smaller group. In this the winner was Mr. W. E. Anderson, gardener to B. Parish, Esq., Melodia, Preston Park Avenue; second, Mr. A. J. Blake, gardener to W. E. Blackiston, Esq., Bleak House, Dyke Road; third, Mr. F. Rapley, gardener to Miss Vesick, St. John's, Withdean. Class 3 was that for a group of Chrysanthemums only. In this Mr. Geo. Miles came first; Mr. H. Head, The Drive Nursery, Hove, second. In this exhibit the green-tinted variety, Madame Edmond Roger, was most effective. Third, Mr. A. J. Battershall, gardener to C. Armstrong Dash, Esq., Preston Park.

Standard-trained plants, pyramids and dwarfs, were provided for, and the prizes were won by Mr. G. Lambert, 17, Bognor Road, Chichester; Mr. Anderson, Mr. Hill, and Mr. Thos. Fairs, gardener to R. Clowes, Esq., Clayton, Wickham, Hassocks, changing places in the different classes. For twelve table plants the first was that of Messrs. W. Miles & Co., florists, Hove; and for six Mr. Anderson obtained the leading prize. A capital group in the amateur division won for Mr. Geo. Digott, 31, Trafalgar Street, the first award.

Thirty-six Japanese, in not less than twenty-four varieties, was the largest class. Here Mr. G. Collip, gardener to T. Carruthers, Esq., Gaskmore, Reigate, won with an exceedingly high-coloured and well-grown exhibit. The varieties were Mrs. W. Mease (2), Mrs. E. Weeks (2), Mons. L. Remy, N.C.S. Jubilee (2), President Nonin, Mdle. Gabrielle Seince, Phœbus (2), Secrétaire Fierens (2), Madame Couvat du Terrail, Soleil d'Octobre, Lady Ridgway (2), M. Hoste, Nelly Pockett (2), Lady

Hanham (3), Mrs. W. G. Palmer, Marie Calvat, Le Grand Dragon, M. Panckoucke, Lord Ludlow, M. Chenon de Leché (2), Edith Tabor, Miss Elsie Teichman, Charles Davis, Mrs. M. Grant, Chatsworth, Madame Philippe Rivoire, Swanley Giant. Second, Mr. Geo. Hart, gardener to H. Head, Esq., Buckingham, Shoreham. In this stand Australia and Julia Scaramanga were fine. Third, Mr. C. J. Dicker, gardener to Hon. Miss Canning, Frant Court, Tunbridge Wells.

For twenty-four Japanese.—First, Mr. Hart; second, Mr. H. Cook, gardener to S. A. Hermon, Esq., Staplefield Place; third, Mr. R. J. Heasman, gardener to Miss Oxley, Fen Place, Turners Hill. In the class for a dozen Japanese Mr. Geo. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, was a good first, and the blooms were worth naming: Madame Carnot, Mr. T. Carrington, G. J. Warren, Lady Hanham, Swanley Giant, Mutual Friend, Graphic, Mrs. J. W. Barks, Surpassé Amiral, Pride of Madford, Chas. Davis, Pride of Exmouth. Second, Mr. S. Baker, gardener to F. H. Baxendale, Esq., Framfield Place, Uckfield; third, Mr. C. E. Short, gardener to A. Henty, Esq., Broadwater Hall, Worthing.

For six Japanese the first prize was won by Mr. W. Furlong, gardener to T. Neal, Esq., Leylands Park, Burgess Hill; second, Mr. Short. Half-a-dozen Japanese, one variety, white, brought fine blooms of Madame Carnot from Mr. Duncan, the same exhibitor winning first in a similar class for yellow with grand flowers of G. J. Warren. For six any one variety Mr. Collip obtained the leading award with M. Chenon de Leché. The incurred blooms were below the average, save a fine half-dozen flowers of C. H. Curtis, which won for Mr. C. J. Dicker the first prize.

Three vases of Chrysanthemums brought some imposing exhibits, Mr. Thos. Fairs, Mr. Head, The Nursery, Hove, Mr. J. Davis, Buckingham Hill House, Uckfield, were placed in the order named. For one vase with foliage Mr. Geo. Hart came first with an excellent arrangement; second, Mr. Head; third, Mr. Goodliffe, Cambridge Nursery, Worthing. Space will not allow us to name all the many excellent exhibits of amateurs, but the eighteen blooms which won the Brighton amateur challenge trophy for Mr. W. C. F. Gillam, 75, Waldegrave Road, Preston, was a capital exhibit.

Three classes were provided for black Grapes. For Gros Colman Mr. H. West, Meadow Vineries, came first; second, Mr. W. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill. For Black Alicante Mr. Taylor was first; Mr. Heasman, Fen Place, Turners Hill, second. In that for any other black Grape the first was taken by Mr. J. Holman, gardener to S. Crunden, Esq., Burgess Hill; second, Mr. Taylor. In white Grapes Mr. Duncan led with grand bunches of Muscats; second, Mr. Taylor. In Pears Mr. Warren, Handcross, Crawley, led; followed by Mr. Duncan. Stewing Pears brought a fine exhibit from Mr. J. Bunney Danny, Hassocks; second, Mr. Stringer, gardener to R. A. Bevan, Esq., Horgate, Cuckfield. In Apples Mr. Duncan led with four dishes of dessert kinds; second, Mr. F. W. Thomas, Polegate. For culinary kinds Mr. Thomas was first.

Among non-competitive exhibits, the fine table of fruits and flowers from Messrs. J. Cheal & Sons, Crawley, and the fine floral decorations of W. Balchin & Sons, Brighton, deserve special mention.

CROYDON.—NOVEMBER 7TH AND 8TH.

AN exceedingly attractive show was that of the above popular Society. The Secretary, Mr. Beckett, is not a new hand in managing such exhibitions, and all things were made smooth for everyone connected with it. Excepting in the cup class the entries were numerous and competition close in most cases.

In the open class for a group, Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley Hall, led, the second prize going to Mr. Gladwell, gardener to Sydney Smith, Esq., Werndee Hall, Norwood. The best group confined to local growers came from Mr. A. Hertridge, gardener to T. Ellis, Esq., Ross Road, Norwood; second, Mr. C. Perrett, gardener to Mrs. Fuller, Duppas Hill.

Much interest centred in the champion challenge cup class for thirty-six Japanese blooms in not less than twenty-four varieties. The first prize was won by Mr. M. Mills, gardener to Frank Lloyd, Esq., Coombe House, Croydon, and as the same exhibitor won it twice previously it now becomes his property. The stand was worthy of it, the flowers being well developed and rich in colour. It contained Simplicity (2), Emily Towers (2), G. J. Warren, Australia (2), Phcebus, Madame Carnot, Hero of Omdurman, Mrs. W. H. Lees, M. Panckoucke (2), Mutual Friend, Mrs. M. Mills (2), Mrs. Mease (2), Isorette, Mrs. Barkley, W. G. Gilbert, Mrs. Carpenter, The Wonderful, Nelly Pickett, Mrs. J. W. Barks, Mrs. C. Blick, Sam Probin, C. B. Haywood, E. Dashwood, Edith Tabor, Louise (2), E. Molyneux, Mr. J. Beisant, Sunflower, Mrs. Coombes, Second, Mr. Gooch, gardener to T. Wickham Jones, Esq., Norwood. Mr. Gladwell came first with eighteen Japanese, the variety Julia Scaramanga being first-class.

For twelve Japanese Mr. Mills won, and in this stand the premier Japanese was selected, a flower of Madame Carnot; second, Mr. Gladwell. Six blooms of one variety brought a good set from Mr. A. Ratcliffe, gardener to W. P. Dacre, Esq., Epsom, the sort being Madame Carnot. Mr. Gladwell followed with Reine d'Angleterre. In the class for six incurred, one variety, Mr. Mills led with C. H. Curtis. A flower from this stand won premier prize, but the class generally were poorly represented.

In the single-handed gardeners' classes, Mr. A. Osmond, gardener to A. Kemp, Esq., and Mr. A. Heritage, won the principal prizes, both showing well, and in the amateur division, Mr. N. Wrightson, 55, Elgin

Road, Croydon, distinguished himself. The half dozen blooms of Phcebus which won first prize was a really fine exhibit. The blooms were large and highly coloured. The same exhibitor won in the class for vases of blooms, with an excellent display of well-grown flowers.

Fruit and vegetables.—For a collection of twelve dishes of Apples the first prize was taken by Mr. J. Harris, gardener to P. Crowley, Esq., Waddon House; second Mr. W. Jones, gardener to J. R. Brougham, Esq., Wallington Bridge. Mr. Humphreys, gardener to A. H. Smee, Esq., Hackbridge, gained the first award for six dishes of kitchen Apples, second Mr. Harris. For dessert kinds Mr. Humphreys was again first, and Mr. Jones second. This order was reversed in the class for six dishes of Pears. A collection of twelve dishes of vegetables brought good competition. First Mr. A. Hornsby, gardener to Mrs. Lloyd, Coombe Farm; second Mr. J. Johnson, gardener to Mrs. A. Crowley; third Mr. E. Dove.

Exhibits not for competition included a fine display of fruit from Messrs. G. Bunyard & Co., Maidstone, also from J. Cheal & Sons, Crawley; J. Laing & Sons, Forest Hill; Peed & Sons, Norwood, and Mr. Box, Croydon. This firm also had a capital stand of Primulas and Cyclamens. Mr. G. H. Cooper, Sydenham, had several large, bush-trained Chrysanthemums which were well flowered; these were of considerable interest to the visitors.

DUBLIN.—NOVEMBER 7TH AND 8TH.

THE great hall of the Royal Dublin Society's spacious premises again looked gay with its serried ranks of bright blooms and bold plant groups. Outside, however, wind and rain prevailed, a condition of things not conducive to a good attendance of the public. Compared with previous similar exhibitions there appeared to be a falling off in the numbers of the exhibits, although quality was well sustained.

The principal plant groups in competition were—Class 1.—Thirty Chrysanthemums staged for effect. Here the best was awarded a second prize only, this going to I. Millar, Esq. The next class, for thirty-six plants similarly staged, for Lord Ardilaun's challenge cup, brought out Mr. Millar in much stronger form, and to him the trophy was awarded, Mrs. W. McComas taking second place. In the lesser plant classes some very fine specimen plants were noticed, which were under adjudication as we left.

Classes for cut blooms commenced with the large order for forty-eight Japs, distinct, the first prize of £10 and the Society's large silver medal going to Mr. McKeller for Lord Ashbrook, whose most prominent blooms were Mrs. J. Lewis, Australian Gold, and a fine Edwin Molyneux, Mrs. Crawford taking second honours with compact but smaller blooms. The Waterhouse challenge cup for a stand of thirty-six blooms, half Japs and half incurred, was also taken by Lord Ashbrook with eighteen superb Japs and fair incurred, Lord Ashtown following.

A very popular class is one for twenty-four Japs, distinct, for which a 10-guinea trophy is presented by the gardeners of Ireland. Again Lord Ashbrook swept the decks, among five competitors, with grand blooms, among which Madame Carnot, Le Grand Dragon, and Mrs. J. Lewis were conspicuous; C. S. Spear, Esq. (gardener, Mr. Maher), being second, with the Hon. Col. Crichton third, who had a glorious bloom of Modesto in his stand. Still again Lord Ashbrook led to victory with twenty-four incurred, with large blooms, not calling for any special remark. Mr. Crawford, who came next, having a fine bloom of Duchess of Fife not quite developed.

Clifford Lloyd, Esq., had the best twelve incurred; Mrs. Blacker winning Mr. H. J. Jones' silver-gilt medal for the best twelve Japs among eleven entries. The lesser classes, which were fairly well filled, displayed some fine blooms. The same gentleman's medals for the best blooms in the show had not been awarded at the time of our leaving. Mr. Campbell, gardener to Lord Ardilaun, the President of the Society, contributed some nice exhibits of Carnations, Cyclamens, and a circular group of foliage and flowering plants.

In the nurserymen's groups Messrs. Chas. Ramsay & Sons had it all their own way with a superb group never surpassed in Dublin. Vegetables, though somewhat coarse, were well shown, and fruit made a very fine display. In this department Messrs. Saunders of Cork set up a table of 250 kinds of Apples and Pears of marvellous brightness and beauty; Messrs. Alexander Dickson, Messrs. Hugh Dickson, and the old Dublin firms of Messrs. Hogg & Robertson, and Messrs. Tait & Co. following on the same lines.

Pressure on space precludes many worthy exhibits being mentioned, but passing notice must be made of the pretty table arranged by W. Hewatt, Esq., Blackrock, with bright bits of Cattleya labiata nestling in Maidenhair Ferns and draped to the ground with Panicum variegatum.—K., Dublin.

NATIONAL CHRYSANTHEMUM.—NOVEMBER 7TH, 8TH, AND 9TH.

AS usual the Royal Aquarium was the scene of the great show of the N.C.S., and the display was a magnificent one indeed. All sections of the autumn flower were represented in greater or lesser numbers, but with one general degree of excellence. Japanese varieties were shown in immense numbers and in several cases of the highest possible quality. Not only were magnificent flowers exhibited in the small classes but also in all the bigger and more important ones, and the average of excellence was exceptional. Incurred, too, were good, but their form and size preclude the possibility of their making such a bold display as the less formal and more brilliant Japs. Anemones, Pompons, and singles all came in for a goodly share of attention. Groups both competitive

and non-competitive were superb, and illustrated taste in arrangement as well as excellence of colour.

There were five societies entered for the national competition of horticultural societies for the challenge trophy. The competition is for forty-eight blooms, twenty-four Japanese and twenty-four incurved. The contest was undoubtedly keen, but the Portsmouth and District Horticultural Society came out as the champions. The Japanese varieties were—back row: Mrs. J. Lewis, Vivian Morel, Percy Penford, Modesto, Australia, Miss E. Pilkington, and Florence Molyneux. Second row: Mons. Panckoucke, Lord Ludlow, Madame Carnot, Master H. Tucker, The Graphic, Mrs. R. Jones, Mary Molyneux and Mrs. Mease. Front row: Charles Davis, Lady Hanham, President Nonin, Marie Gill, Nellie Pockett, Pride of Madford, Mons. Hoste and M. Chenon de Leché. The incurved were—back row: Lady Isobel, Globe d'Or, Mrs. N. Molyneux, Chas. H. Curtis, Seedling, Mrs. Gerald Williams, Violet Foster and Ernest Cannell. Middle row: Mrs. R. King, Lord Alcester, Lucy Kendall, Triomphe d'Eve, Hanwell Glory, Queen of England, Emile Nonin, and Ma Perfection. Front row: Jeanne d'Arc, Violet Tomlin, John Lambert, Golden Gem, R. Petfield, Madame Darier, Princess of Wales and Mrs. S. Coleman.

The Sevenoaks and West Kent Gardeners' Society was second, the blooms being contributed by Mr. W. Tebay, gardener to Mrs. Ryecroft, Sevenoaks. The best blooms in Japanese were Mrs. J. Lewis, Mons. Hoste, Madame Gustave Henry, and Mrs. W. Mease. The incurved varieties were really stronger than in the winning stand, while the Bromley and District Chrysanthemum Society were a good third, and the Ipswich Society fourth.

The Holmes Memorial challenge cup for thirty-six incurved blooms, distinct, brought out four entries, all of them especially strong. The first prize was won by Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead. The varieties were—back row: Duchess of Fife, Madame Ed. Roger, Mrs. H. J. Jones, Major Bonaffon, Ialene, Ma Perfection, Chrysanthemiste Bruant, Lady Isobel, Mrs. Gerald Williams, Mrs. E. C. Kingston, Miss Violet Foster, and Madame Ferlat. Middle row: Hanwell Glory, Yvonne Desblanc, W. Tunnington, Countess of Warwick, J. Agate, King of the Yellows, Madame Verneuil, J. Lambert, Globe d'Or, Topaze Orientale, E. Cannell, and George Haigh. Front row: Princess of Wales, Bonnie Dundee, Miss M. A. Haggis, D. B. Crane, Pearl Palace, Lucy Kendall, Mrs. S. Coleman, Violet Tomlin, M. P. Martignac, C. B. Whitnall, Lord Alcester, and L. M. de la Drome. Mr. G. J. Hunt, gardener to P. Ralli, Esq., Ashted Park, Epsom, was a dangerously close second; his best blooms were Chrysanthemiste Bruant, Madame Ferlat, Mrs. W. C. Egan, Robert Petfield, and W. Tunnington. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, was third; and Mr. W. Jinks, gardener to E. Bruce, Esq., Walton-on-Thames, fourth.

The Holmes Memorial challenge cup, for forty-eight Japanese varieties, distinct, there were six competitors. Mr. F. Vallis, gardener to The Bromham Fruit Farm, Chippenham, was first. The blooms were—back row: G. J. Warren, E. Molyneux, Pride of Exmouth, Australia, Madame Carnot, Edith Tabor, Pride of Madford, Mr. J. Beisant, Madame G. Bruant, Phœbus, Susie, Mr. G. W. Palmer, Soleil d'Octobre, Graphic, Mr. A. H. Barrett, and Mrs. Mease. Middle row: Nellie Pockett, Swanley Giant, Lady Hanham, Elsie Teichmann, Marie Calvat, Souvenir de Madame F. Rosette, Mrs. J. W. Barks, Mr. J. W. Barks, M. L. Remy, Lady E. Clark, M. Marius Ricoud, Surpasse Amiral, Mons. Hoste, Madame Gustave Henry, Chas. Davis, Calvat 1899, and Mrs. Coombs. Front row: Mons. Chenon de Leché, Mrs. J. Lewis, Oceana, Vivian Morel, Mutual Friend, N.C.S. Jubilee, Madame Philippe Rivoire, Mrs. Barkley, Eva Knowles, Madame A. Brun, Wm. Bardney, Lady Ridgway, L. Seward, E. Towers, Le Grand Dragon, and Simplicity. Mr. J. W. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, was second with a capital stand. The best varieties were Le Grand Dragon, Chas. Davis, Lady Hanham, Mrs. J. Lewis, G. J. Warren, Phœbus, and Ed. Molyneux; while Mr. W. H. Lees was a good third.

In the class for twenty-four Japanese, distinct, there were five entries, but Mr. J. W. McHattie was awarded the first prize. The varieties were:—back row: Australia, Edith Tabor, Mons. Hoste, Mrs. J. W. Barks, Soleil d'Octobre, Jas. Bidencope, G. J. Warren, and Mrs. J. Lewis. Middle row: Mrs. W. Mease, E. Molyneux, Mrs. H. Weeks, Lady Hanham, Milano, Simplicity, Mrs. G. W. Palmer, and Mrs. W. Popham. Front row: Mrs. C. H. Payne, Madame Carnot, Duke of Wellington, A. Gold, Madame Gustave Henry, Chas. Davis, Chatsworth, and Le Grand Dragon. Mr. W. Meredith, gardener to G. Wilder, Esq., Emsworth, Sussex, was second. His best flowers were Mrs. Mease, Madame Gustave Henry, Madame Carnot, Chas. Davis, Mr. T. Carrington, and E. Molyneux; while Mr. H. Perkins, gardener to the Hon. W. F. D. Smith, Henley-on-Thames, was third.

In the class for twenty-four incurved varieties, distinct, there were only two entries, and the first prize was well won by Mr. W. Higgs. The varieties were Duchess of Fife, Miss Violet Foster, Mrs. R. C. Kingston, Madame E. Roger, Countess of Warwick, Mrs. H. J. Jones, Ialene, Madame Ferlat, Hanwell Glory, S. M. de la Drome, Ma Perfection, Chrysanthemiste Bruant, J. Agate, Globe d'Or, Lady Isobel, Chas. H. Curtis, Yvonne Desblanc, Lucy Kendall, Mrs. S. Coleman, King of the Yellows, W. Tunnington, John Lambert, D. B. Crane, and Pearl Palace. Mr. G. J. Hunt was second with good blooms of Chas. H. Curtis, Mrs. W. C. Egan, Violet Tomlin, and Bonnie Dundee.

For six incurved blooms, one variety, there were five entries. Mr. W. Higgs was awarded first for a grand half dozen of Duchess of Fife, Mr. G. J. Hunt was second with the same variety, and Mr. T. Perkins, gardener to F. W. J. Ward, Esq., Highgate, third.

There were three entries for twelve bunches of Pompons, and the first prize was awarded to Mr. T. Caryer, gardener to A. G. Meisner, Esq., Weybridge, for a beautiful exhibit. The varieties were Perle des Beauties, Mr. Westlake, President, Rubra Perfecta, Pygmalion, Mr. Holmes, Madame Marthe, Prince of Orange, Mdle. Elise Dordan, Osiris, La Vogue and Toussaint Marizot. Mr. T. Parkins was a capital second, and Mr. C. Brown, gardener to R. Henty, Esq., Abbot's Langley, third.

There were nine competitors in the class for twelve vases of specimen blooms, presented by Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, each vase to contain five flowers. The first prize ultimately was awarded to Mr. J. W. McHattie for a magnificent exhibit. The flowers were of full exhibition size, and the arrangement and colouring charming. It would be superfluous to say more. The varieties were Australia, Mrs. J. Lewis, Milano, Oceana, Madame Carnot, Mrs. Coombs, Phœbus, Mons. Chenon de Leché, Mrs. W. Mease, Chas. Davis, Simplicity, and Mrs. White Popham, the whole making a miniature show in themselves. Mr. W. H. Lees was second with a grand exhibit, which was composed of the following varieties—Mrs. Coombs, Oceana, Jas. Bidencope, Phœbus, Mrs. G. W. Palmer, Madame Carnot, Mons. Chenon de Leché, Mutual Friend, Pride of Madford, G. J. Warren, Lady Ridgway, and Mrs. Mease, while Mr. J. Spink, Summit Road Nursery, Walthamstow, was a good third with Mrs. Coombs, Mrs. H. Weeks, Marie Calvat, and Mrs. White Popham, and Mr. W. Rushton, gardener to A. Whitelow, Esq., Midhurst, third.

There were three entries for six trained plants, but Mr. J. Brooks, gardener to W. Reynolds, Esq., The Grove, Highgate, was easily first with superb plants. The varieties were Col. W. B. Smith, Miss Watson, Maiden's Blush, Mrs. Mease, John Shrimpton, and Phœbus. Mr. G. W. Wright, gardener to J. Troup, Esq., Upper Clapton, was second with smaller but well flowered specimens; and Mr. J. Weston, gardener to D. Martineau, Esq., Clapham Park, third.

There were only two entries for six trained Pompons, but they were exceptionally well grown. The varieties were Lilac Cedo Nulli, White Cedo Nulli, Golden Cedo Nulli, Scur Melanie, Madame Marthe, and Francis Boyce; Mr. F. Gilkes, gardener to A. Morris, Esq., Streatham, was second with smaller plants.

There were four competitors for four trained plants. The first prize was awarded to Mr. G. Whitehorne, gardener to S. Nicholls, Esq., Walthamstow, who staged splendid plants. The varieties were President Nonin, John Shrimpton, Col. W. B. Smith, and Vivian Morel. Mr. T. Stone, gardener to R. A. Cochrane, Esq., St. Neots, was a good second with plants that would have been better in another week; and Mr. F. Gilkes was third.

The standard-trained plants brought out two entries. The first prize was awarded to Mr. G. Whitehorne, who had good examples of Sunflower, Cleopatra, Eva Knowles, and Mrs. Tricker. Mr. F. Gilkes was a good second. There was only one entry for six trained plants as standards, and the first prize was awarded to Mr. G. Wright for well-flowered specimens.

There was a capital entry of four groups of Chrysanthemums with foliage plants arranged for effect. Again Mr. J. Spink, of Summit Road Nursery, Walthamstow, demonstrated his skill and ability to build a good group by taking the first prize. The blooms employed were splendid, while Palms, Grasses, and Dracenas were utilised to lighten it; a notable exhibit. Mr. W. Howe, gardener to Sir Henry Tate, Streatham Common, was a good second, using bright and effective blooms, with Crotons, Palms, and Ferns, while the third prize was awarded to Mr. A. Hutton, gardener to Mrs. E. Swanzy, Sevenoaks, for a tasteful display.

In the miscellaneous class for a collection of Chrysanthemums, Mr. H. J. Jones, Ryecroft Nursery, Lewisham, arranged a magnificent display of cut blooms, arranged in gigantic vases, with a suitable groundwork of specimen blooms. The arrangement with Palms, Crotons, Ferns, and a great variety of autumnal foliage was most effective, and made an imposing appearance. It is doubtful if Mr. Jones ever staged a finer display, which was awarded a large gold medal. Mr. Norman Davis, The Vineries, Framfield, Sussex, also received a large gold medal for a splendid display of cut Chrysanthemums, beautifully displayed in Palms, Ferns, and suitable autumnal foliage. The Carnot family were represented as only Mr. Davis can produce it. The front of the exhibit consisted of specimen blooms arranged in bracken.

There were five entries for twelve incurved blooms, distinct, and Mr. S. Cole, gardener to the Right Hon. Earl Spencer, K.G., Althorp Park, was first with a grand dozen. The varieties were Perle Dauphinoise, Ma Perfection, Topaze Orientale, Madame Ferlat, Mrs. Kingston, Chas. H. Curtis, Mrs. N. Molyneux, Lady Isobel, Lord Alcester, Countess of Warwick, Violet Tomlin, and Princess of Wales. The second prize was awarded to Mr. F. G. Foster, Brockhampton Nurseries, Havant, who had good flowers of Duchess of Fife, Lady Isobel, Countess of Warwick, and Mrs. H. J. Jones, and Mr. C. Penford, gardener to Sir F. Fitzwygram, Havant, was third.

There were eighteen competitors who were brave enough to face the Judges in the class for twelve blooms Japanese, distinct, the prizes offered by Messrs. J. Peed & Son, West Norwood. Mr. G. Neville, gardener to Lord Chesham, Latimer, Chesham, was adjudged the winner for a capital stand. The varieties were Mrs. Mease, President Nonin, Mrs. H. Weeks, Edith Tabor, Lady Byron, Mons. Hoste, Chas. Davis, Eva Knowles, Phœbus, Joseph Chamberlain, and Madame Carnot. Mr. J. W. Roberts, gardener to G. T. Skillbeck, Esq., Harrow Weald, second; and Mr. H. Brown, gardener to H. W. Sillem, Esq., Horsham, third.

In the classes for six blooms, one variety, Japanese, it was pleasing

to note they were all staged in large green vases, certainly a step in the right direction. For six blooms, white, one variety, Mr. J. W. McHattie was first with Mrs. J. Lewis; Mr. W. Higgs was second with Madame Carnot; and Mr. G. Hagon, gardener to E. A. Lee, Esq., Liphook, third with the same variety.

There were a similar number of entries in the class for yellow varieties, and the first prize was taken by Mr. W. Higgs for a grand exhibit of Mrs. Mease, surely a doubtful yellow variety. Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was second with well coloured Phœbus; and Mr. J. Sandford, gardener to G. W. Wright Ingle, Esq., North Finchley, third with Mrs. Mease. Eight competitors staged six blooms, any colour except white or yellow. The first prize fell to Mr. J. W. McHattie for a magnificent six of Australie. Mr. H. Perkins was second with well coloured blooms of the same variety; and Mr. F. Foster was third.

The hairy petalled varieties only brought out two stands. The first prize was awarded to Mr. J. Justice, who had Hairy Wonder, Leocadie Gentiles, Louis Brehmar, and White Swan in good style, while Mr. H. Love, Sandown, was second.

MISCELLANEOUS EXHIBITS.

Messrs. B. S. Williams & Son, Upper Holloway, arranged a large table of decorative plants, with autumn flowering subjects. The chief features were the huge clumps of Begonia Gloire de Lorraine, *Erica hyemalis* and alba, *E. gracilis*, with *Cypripediums*, *Cattleyas*, Tree Carnations, beautifully arranged with Palms, *Dracenas*, *Crotons*, and a variety of Ferns. Messrs. Isaac House & Sons, Coombe Nurseries, near Bristol, had a table of Violets, the perfume pervading the hall for some distance around. The varieties included Princess of Wales, La France (a grand variety), Italia, Victoria, California, Mrs. J. J. Astor, and Marie Louise, a beautiful and seasonable exhibit.

Messrs. J. Laing & Sons, Forest Hill, again decorated one of the fountains in an artistic manner, using Palms, foliage plants in variety, trailing Ivies, Oranges and some splendid Chrysanthemums grown in small pots, each plant carrying eight to ten blooms. Messrs. W. Cutbush and Son staged a beautiful exhibit of decorative plants beautifully arranged, and included some good Chrysanthemums, groups of Begonia Gloire de Lorraine, *Erica*, Tree Carnations, *Bouvardias* all bedded in Ferns and Grasses.

Mr. J. Forbes, Hawick, exhibited plants of his white Begonia Caledonia, the white sport from Gloire de Lorraine. Mr. G. W. Piper, Uckfield, had a grand exhibit of his new Tea Rose Sunrise, a well known variety. Mr. J. Agate, Havant, staged a splendid box of Florence Molyneux, a variety illustrated recently in these pages, also the new yellow Edith Pilkington. Messrs. T. S. Ware, Ltd., Tottenham, had a table of specimen blooms which included a good collection of all sections.

Messrs. H. Cannell & Sons, Swanley, displayed a huge bank of Japanese blooms, somewhat formally arranged, nestling in a bed of Maidenhair Fern; also two handsome groups of Cannas, and a superb display of Zonal Pelargoniums, which were grown as only Mr. Cannell can grow them. The best were Ian Maclaren, The Mikado, Menelik, Mrs. Simpson, King of Crimson, and Britannia. Mr. J. Green (Hobbies, Limited), Dereham, occupied a table with Chrysanthemums, relieved with a few foliage plants. The specimen blooms were fine, especially Nellie Pocket, Australie, and Modesto. Mr. Robert Owen arranged a nice group of plants, assisted with a few Ferns, Palms, and *Crotons*. On each side numbers of cut blooms were displayed. A large circular group of Chrysanthemums was exhibited by Messrs. J. Peed & Son, West Norwood.

PEAR BEURRÉ D'ANJOU.

NUMEROUS as have been the communications that have been published on Pears this variety has had little, if any, attention. Is this the result of its having proved unsatisfactory, or is it because it is not in general cultivation? The fruit now figured was sent to us for name by "R. J. N.," who has a high opinion of the variety, both because the tree is a good grower and bearer and the fruit is of superior quality. The specimens submitted answered precisely to the description of this Pear in the "Fruit Manual"—namely, "Fruit large and handsome, even and regular in its outline, roundish obovate. Skin greenish yellow, with sometimes a shade of dull red next the sun, marked with patches of russet, and thickly strewn with brown and crimson dots. Eye small and open, deeply inserted in a wide cavity. Stalk short and stout, set in a round hole. Flesh white, very tender, buttery, and melting, very juicy, vinous, and with a delicate rose-water perfume. A very superior Pear; ripe at the end of October, and continues in use till December and January. It is quite distinct from the *Nec Plus Meuris* of Van Mons."

COLDFAHLL WOOD.—Much regret is felt at Muswell Hill and East Finchley at the decision of the Ecclesiastical Commissioners to close the Coldfall Wood, which is situated to the north of Fortis Green, and is a remnant of the old Middlesex forest. A road is now being made through the wood, and it is apparent that it is to be "developed." Though the wood was never open to the general public, a large number of residents were privileged to use it, and, says a contemporary, on their behalf Mr. Phillips, a local resident, recently forwarded a petition to the Ecclesiastical Commissioners asking them to reconsider their decision.

THE YOUNG GARDENERS' DOMAIN.

CHRYSANTHEMUMS.

(Continued from page 343.)

WHEN the cuttings have a fair amount of roots they will require transferring to large 60-pots, having them clean and well-drained. Pot the plants fairly firm so as to encourage sturdy growth. The compost should be the same as that suggested for cuttings, but with rather less sand. In potting always be careful not to break any of the roots, and it is a great help to the plants if the roots are carefully loosened before being placed in the fresh pots. When potted place in a rather close frame for a few days until root action commences, and always be careful not to water when the soil is still pleasantly moist. Lightly shade from the sun on the slightest signs of flagging, and also give a light dewing with a fine rose can or a syringe. After the plants are well established give them plenty of air on bright days, and if the weather be very mild the

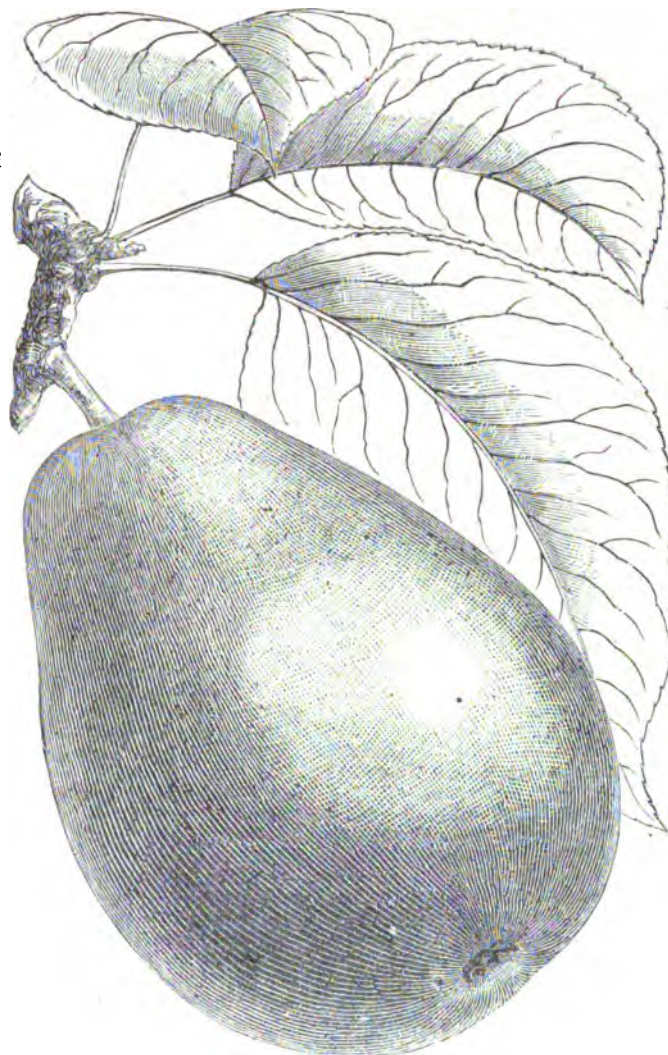


FIG. 76.—PEAR BEURRÉ D'ANJOU.

lights may be removed, but covering again about the middle of the afternoon.

The plants will grow rapidly and will require larger pots—this time 32's—using a compost of two-thirds loam broken in small pieces, and one-third leaf mould with enough sand to keep it porous, and also add a little of some approved fertiliser and soot. Pot firmly, placing in a similar position as before, and keeping them close for a few days, after which air may be gradually admitted. Do not apply any water for a few days after potting, but a light syringing twice daily will prove beneficial. As the plants grow, the sun gains power and the nights become warmer the lights may be removed, but should be in readiness for putting on in case of need.

The next important part will be the final potting, which should take place about the middle of May, but no exact time can be given, as it varies with the season. The compost should now be got in readiness, and may consist of four parts fibrous loam, one leaf mould, a small amount of sand and lime rubble, wood ashes, and fertiliser, using about $\frac{1}{2}$ cwt. to a cartload of loam, and also a little crushed bones. Thoroughly mix, and if in any way dry a little water should be applied to it from a fine rose water-can. I may say that if the loam is pulled to pieces it will bind together better when used than if it were cut. The pots

must be either 10 or 12-inch, having them well cleaned and with a fair amount of drainage. In potting place a little soot on the crocks, then some of the rough pieces of loam to prevent the fine soil getting amongst them, and it ought to be made quite firm before the plant is placed on it. Spread out the basal roots evenly and make all the soil firm, filling the pots to within about 1½ inch from the top, thus allowing room for a future top-dressing. Never pot any of the plants until they require it, while, on the other hand, do not allow them to become root-bound. As potting is completed stake each plant, and stand in a rather shady position for a few weeks so that they may get a good start.

The newly-potted plants will not require water for a few days, but it is necessary to test them all daily. At this stage syringe the plants twice a day when the weather is bright, but it should always be done in time to allow them to become dry before night. A few weeks after potting it will prove beneficial to the plants if a little weak soot water is syringed on the foliage occasionally.—P. R.

(To be continued.)



HARDY FRUIT GARDEN.

Planting Fruit Trees.—This is the most important work of the month, and should be carried out with care and dispatch on every favourable opportunity. The soil is best prepared some weeks prior to planting trees and bushes, as it then becomes firm. This desirable preparation, however, is not always practicable so far in advance of planting, but it must be carried out, if the trees are to succeed, before the final planting. Bastard trenching or double digging is the best method of dealing with the soil, inasmuch as it does not bring inferior subsoil to the surface, but yet breaks up the material to a considerable depth.

Introducing manure to the soil intended for planting fruit trees is not a commendable practice, as it is likely to induce the formation of strong, sappy wood and cause an over-vigorous growth. This refers to a fairly rich and fertile soil. On the other hand a poor and light soil ought in addition to deep cultivation to be enriched with decayed manure worked well among it. All soils, light lands especially, will be benefited by mixing in wood ashes and burnt refuse. For stone fruits lime also should be added. Recently prepared soil may be made firm by treading the surface when dry. The stations for the reception of the trees should be prepared wide and shallow.

Preparing the Trees and Bushes.—Care is necessary in preventing injury to the roots of trees after lifting from the ground. When the trees only require moving from one part of the garden to another they may be lifted with good balls of soil and readily planted, so as not to receive any check, or comparatively little. In the majority of instances, however, newly planted fruit trees are those which are purchased. These are necessarily free from soil about the roots when received, but if the latter are carefully packed so as to prevent them drying unduly they will not be materially damaged. Immediately the trees are to hand unpack the roots and lay carefully in moist soil. This will have the effect of stiffening the roots and fibres. Prior to planting the roots must be examined so as to discover all the injured parts, and these must be pruned smoothly back to healthy portions. It is well to shorten long and strong roots, which will induce them to emit young fibrous roots. Preserve all the fibrous portions found, and do not allow any to remain exposed to the drying influences of air and sun. The roots should be cut with an upward slanting cut. Plant immediately after the operation, or lay the roots in soil again.

Hints on Planting.—Some fine soil ought to be prepared and placed conveniently for spreading among the roots when planting. This may consist of light loam and burnt refuse intermixed. The roots must be spread out to their full extent after fixing the tree in position and at the right depth so that the stem will not be buried deeper than before. This is easily ascertained by the earth marks on the stem. See that the holes are wide enough for permitting the roots to be spread out. In covering and securing the fibres in position spread the soil over them from the stem outwards, and they will lie in the proper direction, otherwise the points may be turned up and perhaps bent backwards. If there are plenty of roots they may be treated thus in layers, the upper layer being covered about 4 inches; make the soil firm about the roots, but do not stretch or damage them by treading. Trees which require support should have stakes placed to them at once and be secured with soft ligatures which will not cut into the bark. Mulch the surface of the soil over the roots with half-decayed manure.

Planting Wall Fruit Trees.—*Preparing Borders.*—In preparing the soil for trees growing on walls it should be trenched 2 feet deep whatever width the border is made. For growing large spreading trees on free stocks the border ought to be 10 feet wide, and the wall of corresponding height. Cordon fruit trees do not need a border so wide, 6 feet being ample in front of a 10 or 12 feet wall, 3 feet wide for a 6 feet wall. Bastard trenching is the best method of stirring the soil. By this means the ground to the depth of 2 feet is well broken up, but left in its original

position, which is better than bringing inferior subsoil to the surface. Poor soil may be improved by adding good loam rather than manure. For stone fruits there should be an ample supply of mineral matter in the soil. This demand can be met with mixing in wood ashes, crushed mortar rubbish, and crushed bones. Dried and pulverised clay will also improve light soils. The border ought to be efficiently drained and made firm before the trees are planted.

Planting.—Two or three year old trees are the best to procure which have been trained and the foundation of shape laid. All stone fruits may be grown fan-shaped on walls, which is the quickest way of furnishing the space. Apples and Pears are best grown in the horizontally trained form or as upright or oblique cordons.

Secure trees with plenty of fibrous roots, and keep the roots from drying and shrivelling before planting. Spread them carefully out in the soil, first pruning the damaged roots. The base of the stem may be placed well away from the wall to admit of swelling. Sprinkle prepared compost consisting of light, rich material over the fibres to assist in making a good start. At first the trees ought only to be loosely secured to the wall, so that the soil and the trees will settle together in position.

FRUIT FORCING.

Peaches and Nectarines.—*Earliest Houses.*—These may be of two descriptions, according to the varieties they are planted with, and the time the fruit is required to be ripe. 1, Very early house, planted with Alexander or Waterloo and Early Louise Peaches, and Cardinal Nectarine to have fruit ripe in April. 2, Earliest house on the old system, planted with second early and midseason high-flavoured varieties, such as Hale's Early, Dr. Hogg or Early Alfred, Stirling Castle, Dymond and Royal George Peaches, with Rivers' Early, Lord Napier, and Stanwick Elruge Nectarines to have fruit ripe in May. To have fruit ripe at the times named, the houses, not before forced so early, may be closed about the middle of this month, fire heat not being applied until the beginning of December. This will allow the trees ample time, and express forcing, having the fruit ripe in three months from starting, is not safe, and only possible with potted trees.

The house should be kept close, in the sense that air is to be admitted freely above 50°, employing fire heat only to prevent the temperature falling below 35°. Trees that have not been started before will grow gently and safely under this treatment, whilst those forced before will start freely at the usual time without any preliminary excitement. The more slowly the trees are excited the stronger will be the blossoms and chances of a good set of fruit. The outside border should be protected with a few inches thickness of leaves, and a little litter over them to prevent them blowing about, so as to exclude frost. Inside borders should have a thorough supply of water if at all inclined to dryness, but if the lights have been off and the soil has been well moistened through to the drainage, water will not be required for several weeks. Where the roof-lights have remained on it may be necessary to repeat the watering, and if the trees are weakly, the soil friable, and the drainage good, a soaking of liquid manure (not too strong) will tend to a more vigorous start and growth afterwards. Sprinkle the trees occasionally in the morning and afternoon of bright days, but do not keep them dripping with water, and only then when the surfaces become dry.

Succession Houses.—All the leaves are off, except in the latest house, where they should not be forcibly removed, though the trellis may be sharply rapped or the trees brushed over with a light broom, when they part readily from the trees. When they are all off unfasten the trees from the trellis, prune them, thoroughly cleanse them and the house, limewashing the walls, and if need be paint the woodwork and trellis. Tie the trees to the trellis, leaving room for the branches to swell, tight tying being conducive of gum. Remove the surface soil without much disturbance of the roots and supply fresh loam, and sprinkle over it 4 ozs. of a mixture of three parts dissolved bones, and two parts double sulphate of potash and magnesia, mixed, following with a moderate watering. If a light soil use bonemeal instead of dissolved bones, the manurial elements will be held by the soil and be in suitable form for the roots when the trees start into growth. The roof-lights may be removed, and be left off until the buds commence swelling and are showing colour in the spring. This is the best practice with late houses, especially unheated, so as to retard the blossoms, otherwise keep the houses as cool as possible.

Fresh Trees, Lifting, and Root-pruning.—Trees for planting in houses are best two, three, or four years trained to walls outdoors, or trellises in cool houses, and prepared for lifting by digging round them a year previously. Such trees can be lifted with an abundance of fibres, and being carefully planted they force well the first season, not bringing them on too rapidly, and taking a moderate crop. This is better than selecting young trees unfurnished with bearing wood, as these cannot bear any fruit until the second year, and not much the first three years to do them justice; hence the advantage of planting trees in an already bearing state. Any lifting or root-pruning should be performed at once, as the trees will often push adventitious roots freely into the fresh or moved soil, and the cut roots, neatly trimmed smooth, form a callus and push new fibres quickly in spring. Lifting and root-pruning is unquestionably one of the best preventives of gumming, and bringing trees not setting and stoning their fruits properly into a satisfactory condition in those respects. Done carefully and early (as soon as the leaves have fallen or just before) it does not interfere with the following season's crop of fruit.

Strawberries in Pots.—All plants intended for early forcing should now be in frames, with a view to protect them from heavy rains, snow, and severe frosts only. They ought to be well raised up to the glass

and have the pots plunged in ashes, whence they can be drafted into the houses as required. Plants for midseason and late forcing may be plunged in ashes in a sheltered situation, affording a light covering of straw or bracken in severe weather.

Plants of *La Grosse Sacré* and *Royal Sovereign* or *Vicomtesse Hericart de Thury* must be started early in next month to afford ripe fruit in March. The plants should be placed on shelves near the glass, or the pots can be plunged for a time in a gentle warmth of 65°, maintaining a top heat of 45° to 50°, and ventilating fully at and above the last named degree. Under these conditions the plants push the trusses strongly, and by the time they are clear of the crowns, the bottom heat will have declined, so that the plants can be removed to their fruiting quarters without giving them a check; or it must be effected by withdrawing the pots gradually. Watering must be judiciously performed, and worms expelled by the use of clear lime water.

THE BEE-KEEPER.

PREPARING FOR SPRING.

BEE-KEEPERS who have the management of gardens, whether large or small, have an advantage over others not so favourably situated, in being able to grow a variety of plants and bulbs which in their season will be highly beneficial to the bees. Not only will their own bees derive a benefit from them, but their neighbours who are bee-keepers, and whose stocks are probably a mile or more away, will also have a share. The frost and fog which were general during the past month played havoc with the summer flowers, and partly from the above causes and the dry season the trees are leafless earlier than usual. November is always looked on as the dreariest month of the year. But bee-keepers who have a garden must not be idle, as the earlier the plants are placed in their permanent position the better they are likely to bloom, as they will at once form new roots, and will thus be able to withstand severe weather when it comes.

At this season we prefer to make a thorough clearance of all annuals, and also reduce any herbaceous plants that may have overgrown the space allotted to them. Clumps must be lifted whilst the ground is well manured and deeply dug. It is not necessary to carry out this operation yearly, but if manure or fresh soil is added every second or third year a great improvement will be observed, not only in the robust growth of the spring flowers, which, as before stated, are so beneficial to the bees, but also in the growth of the summer and autumn flowers, which will withstand the drought so much better than when the soil is left to take its chance.

We prefer mixed borders, as there is always something in bloom. Often these are found near shrubberies, where many of our commonest trees and shrubs may be planted, which are handsome in appearance, and are valuable as aids to success in bee-keeping. As the land is now in good condition, the first favourable opportunity should be taken to make any alterations that may be deemed necessary.

WHAT TO PLANT.

We prefer to plant large masses of the showiest spring flowers. There is nothing more useful or more admired when in bloom than Wallflowers, and if the colours are kept separate when planting, they have a gorgeous effect. We only use two varieties, the bright yellow, of which there are many forms, and the dark red. The plants are raised annually from seeds sown about the middle of May, and as soon as the seedlings are large enough to handle they are planted out a foot apart. They then form dwarf bushy plants. They are not amongst the earliest spring flowering plants. In the Midlands they usually commence to bloom in April, and are at their best about the middle of May.

Limnanthes Douglasii is often in bloom at the same time as the above. It is more often called the Bee Plant, owing to the bees working so freely on it. It is a dwarf growing plant, and increases rapidly from seeds. When once it has become established very little trouble need be taken with it, as it usually takes care of itself. It should be planted in the front row to form an edging.

Arabis alpina is also of dwarf habit, and is increased by divisions after its flowering season is over. It commences to bloom in February if planted in a warm position, and will continue for three months. It is much frequented by the bees, and is one of the best early flowering bee plants we have. It provides pollen at a season when it is scarce, and it has the advantage of keeping the bees at work near home, which is an advantage in early spring, when many changes in the weather take place in a short time. Nearly all the early spring flowers have an attraction for the bees.

Bulbs, too, may be planted extensively; many of them have excellent pollen-producing flowers, but none more than the different varieties of the Crocus. They need not be disturbed after being planted, as they will increase at a rapid rate. Their great enemies are mice, which should be trapped.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Clibran & Son, Altrincham.—*Trees and Shrubs.*

J. Cocker & Sons, Aberdeen.—*Herbaceous Plants.*

Dicksons, Limited, Chester.—*Forest Trees.*

Little & Ballantyne, Carlisle.—*Planters' Guide.*

W. Wells & Co., Earlswood, Surrey.—*Chrysanthemums.*

J. Williams, Mount Gravatt, Brisbane.—*Fruit Trees.*

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," *S. Rose Hill Road, Wandsworth, S.W.*, and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Establishing Young Vines in a Muscat House (R. R.).—Young Vines are certainly better when allowed to start naturally. We should prune the Vines intended to be planted by or before the new year and place them in the house they will be planted in, which is started in April. When the buds commence swelling and the shoots are not more than an inch long, turn the Vines out of the pots, disentangle the roots carefully, and plant without delay, not covering the uppermost roots more than 2 or 3 inches deep. Water moderately with tepid water, and mulch with an inch thickness of sweetened horse droppings. The Vines should be lightly sprinkled in the morning and afternoon and not overwatered at the roots, as this retards rather than favours root formation. The strong rod of Lady Downe's Vine would be a suitable stock to graft with Muscat of Alexandria, or even Canon Hall if desired, bottle grafting being the most certain process. The Grapes in some cases are finer on this stock than on their own roots.

Apple from India (A. C.).—The Apple arrived in a pickled state. It closely resembles Norfolk Beefing—one of the best of keepers. The fungus specks were obliterated by the changed condition of the flesh through the action of spirits of wine. The fungus is probably the bitter rot—namely, *Glomerium fructigenum*—which most commonly attacks the fruit as it approaches the ripening period, although sometimes at an earlier stage of development. The injury is most likely to appear at the calyx or blossom end of the fruit, but it may start anywhere. It gradually spreads from the point of infection throughout the tissues, causing brown and decay spots as it progresses, and is distinguished, when well established, by the presence of small blackish pustules scattered over the surface of the Apple. These are fruiting specks of the fungus. It probably entered as a germ-tube by the eye of the fruit. The first step towards the successful prevention of this parasitic infection is the removal and burning of all diseased fruit. It would be desirable, also, to rake up and burn the fallen fruit and surrounding rubbish, instead of, as is far too common, leaving on the ground to decay and foster parasitic germs. The trees should be sprayed with dilute Bordeaux mixture, 1 oz. copper sulphate, and 1 oz. quicklime to each gallon of water—1, just before the leaf buds begin to swell; 2, just before the blossoms open; 3, just after the blossoms have fallen; and 4, repeat the application twice later at intervals of two or three weeks, it not being advisable to use Bordeaux mixture late to early ripening Apples. This treatment is effective against Apple scab and brown rot, *Monilia fructigena*, which often attacks the fruit at setting, and enters the core. By adding 1 drachm (avoirdupois) of Paris green paste to the dilute Bordeaux mixture leaf-eating pests may be destroyed.

Propagating Aristolochia Sipho (H. B.).—Propagation is sometimes effected by division of the roots and in other cases by layers in spring or autumn. Cuttings of firm wood root freely in sand under a bell-glass with bottom heat. Fresh seeds are also sometimes had recourse to for increasing this very curious climber.

Dipladenia atro-purpurea (W. W. B.).—You should find no difficulty in obtaining stock of *Dipladenia atro-purpurea*, though it is not nearly so much grown as formerly. Not very long since it was flowering freely in one of the corridors connecting the houses at Messrs. Sander & Co.'s nursery at St. Albans, and no doubt this firm would be able to supply it, as doubtless could many others. Your query as to other kinds is too vague to be answered. There are some other species, notably *D. boliviensis*, that will thrive with less heat than is usually given, and we recently noticed some fine specimens of *D. splendens* growing and flowering freely in a conservatory.

Rust on Cyclamen Leaves (Cyclamen, Surrey).—The leaves are crumpled and browned, or rusted, by the parasite *Tarsonymus geraui*. The pest is very difficult to extirpate. The best thing we have used against it has been tobacco water, made from tobacco juice diluted with about twelve parts water, and dipping the plants in it occasionally, or about every ten days for a time. The plants may be sprayed with it, but it is rather difficult to coat such low plants as *Cyclamen* on the under side of the leaves. Fumigation with tobacco paper and vaporisation with nicotine at frequent intervals has also been found of service, likewise spraying with nicotine essence, 1 part in 100 parts water, but in some cases, especially that of *Gloxinias*, only a long course of treatment has proved effectual.

Blet and Blot (W. R. Baillem).—In horticulture blet means a spot formed on an over-ripe fruit. The word was coined by Professor Lindley in translating some of De Candolle's statements with regard to fruits. He uses it to signify the acquiring of a bruised appearance, as fleshy fruits do after they have passed their prime, and if they have not begun to rot (Lindley: "Introduction to Botany," 3rd edition, 1839, p. 356). Bletting, therefore, signifies acquisition by a fleshy fruit of a bruised or broken appearance, after it has passed its prime, and when it has not begun to decay. The process is best seen in the Ebenaceae, such as *Diospyros*, and Pomaceae, such as *Mespilus* (Medlar). Fleshy fruits belonging to other orders in general do not blet but rot, and thus bletting is in particular a special alteration of the flesh common to fruits of the order Rosaceae, which includes haws and hips. "Blut" must be a local term.

Cineraria Leaves Diseased (R. L.).—The fine, stout, leathery leaves, with short petioles, evidence of careful management and high-class cultivation, are affected by a fungus which accords with the Lettuce mildew, *Peronospora ganglioniformis*. We have not before found it on *Cineraria* leaves, though common enough on various other composite plants, and is sometimes very destructive to Lettuces, especially in frames. The attack on the *Cineraria* leaves is characterised by the upper surface of the portion infested being yellowish-green in colour, passing into brown, and ultimately complete decay. The lower surface of the patch bears a white coating, and this, under the microscope, is seen to consist of erect fertile stems, flattened and broad, bifurcated three to eight times, and bearing at their tips a flattened enlargement on which stand from two to eight short slender branchlets, each producing a pale or colourless spore (conidium) roundish-oval in form, with a minute wart or point at the apex, and the germinal tube issues from it. The resting or oospores are produced in the affected parts. As few leaves are attacked you would be doing well, as suggested, to cut off the worst, and burn them without delay. The best preventive, so far as we have observed in Lettuces, is abundance of air, and dusting with air-slaked lime occasionally, this also being remedial. In the case of *Cinerarias* we advise more air, as much as can safely be given, and dusting the plants on the under side of the leaves with a fungicide in powder, and containing sulphate of copper, such as anti-blight, and other similar preparations, repeating occasionally.

Diseased Pears (F. J. B.).—The skin of the fruit is disfigured by several depressed spots or scabs, and around these there is a whitish margin with a dark border permeated by mycelium, from which a few narrowly ovate bodies spring (stroma) contracted in places, and these cells breaking off act as conidia or spores. It is the condition of the fungus, *Cladosporium dendriticum pyrinum*, called *Spilocaea pomi*, *Fries*. The fruit seems to have been attacked by the fungus and then arrested, so that the growth of the Pears was irregular and swollen in places. The fungus develops on the fruit (even after it is gathered and stored) when the conditions are favourable, and greatly diminishes its value. All affected fruit should be destroyed by burning, as it is unsightly and not perhaps wholesome. It is advised to lift the trees if not too large and give them some good fresh loam, or otherwise afford support. This tends to a better growth in the trees and assists them to resist the disease. The trees should also be sprayed with sulphate of copper, 1 lb. to 25 gallons of water, when the buds commence swelling with a view to destroying the spores of the fungus, and they should be sprayed again as soon as the fruit is set with Bordeaux mixture, made as follows:—Dissolve 4 ozs. of sulphate of copper in a vessel by itself in 2 or 3 gallons of water, slake 4 ozs. quicklime (light lumps) in another vessel and form into a thin whitewash, then pour this through a hair sieve slowly into the vessel containing the sulphate of copper solution, stir well, and add enough water to make 7½ gallons, and use this at once as a spray, coating every part of the trees with the finest possible dew or film. If necessary, repeat in about three weeks. A third application may be necessary if the attack is a bad one at a similar interval.

Scale on Kentias (W. White).—The small brown scale can be attacked effectively with an insecticide. The insecticide should be applied with a brush, and the insects dislodged, and afterwards cleanse the plants with clear tepid water. Spirit of wine, diluted with about half its quantity of water, and applied with a small brush, so as to dislodge the pest, is a cleanly method of removing the scale. Methylated spirit may also be used very effectively, just moistening a brush with it and then wetting the scale insects. If the fronds are young the methylated spirit should be diluted similar to the spirit of wine; on mature fronds it either may be used neat, or only employing enough to wet the insects.

Chrysanthemum Buds not Expanding Satisfactorily (E. J. E.).—We have carefully examined the soil, plant, and buds. The buds are what is termed "blind," some of the florets developing and others not, while many are twisted and twirled in any but the proper direction. The cause of this has been regarded as due to excess of nitrogenous food, favouring leaves and wood at the expense of flower. This certainly appears so in your case, the plants not having had enough phosphoric, potassic and magnesian food in proportion to the nitrogenic. The flower buds have also the appearance of having been infested by mites—the *Chrysanthemum* bud mite, *Phytotius chrysanthemi*. The position for the plants would tend to favour the mite especially in a dry season like the past summer, and for this there is no better safeguard and also against mildew than occasional syringing or, better, spraying with liver of sulphur, 1 oz. to 6 gallons of water or bi-sulphide calcium, named in our last issue, page 392. The water from the river being largely impregnated with lime from the higher sources and with iron from the works near by would tend to harden the tissues and to some extent prejudice the expanding of the blooms; but as the water does not materially affect the health of the plants there cannot be much amiss with it. Use fertilisers of a less stimulating nature, when all may be well in future. Several days' delay and needless expense was caused by your misdirecting the large box.

Spots on Marie Louise Violet Leaves (F. H. S.).—The spots are not produced by the fungus you name there not being the slightest trace of rust, *Eoidium depauperans*, or *Puccinia violarum* in any stage. The blotches under the microscope yield the outgrowths of the Violet mildew (*Peronospora violæ*), which appears on the leaves as small rounded brown spots, ultimately becoming black, causing the leaves affected to finally wither and die. We have long experience of this pest with Violets in frames, and even in the open ground, the disease appearing towards the latter part of summer, and attacking such leaves as lie on the ground, or where the plants are much crowded in foliage. The best preventive we have found has been to grow the plants from single suckers every year in an open situation, keeping off all runners, the plants being given plenty of space every way, so as to receive abundance of light and air, and thus be thoroughly solidified in growth and form bold crowns, which give finer flowers than a multitude of weak ones crowded. In the frames they were given abundance of air, always some day and night in mild weather, the frames being only closed and protected during frost. With these precautions, removing bad leaves, or even spotted, as soon as they appeared, and dusting occasionally with charcoal dust, the spot was kept in subjection. It usually appears in September, and is most destructive to plants placed close together in frames, where the conditions favour the fungoid germination and development. In very bad cases dusting with air-slaked lime is very desirable, and the mild forms of fungicide, such as anti-blight, may be serviceable, but we do not advise poisons on scented flowers.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (Northampton).—Sandringham. (H. S.).—Alfriston. (R. K.).—1, King of the Pippins (small); 2, Kedleston Pippin; 3, not a typical specimen, most resembles a small fruit of Emperor Alexander. (H. H. H.).—1, possibly Reinette du Canada; 2, Yorkshire Greening; 3, Five Crown Pippin; 4, Mère de Ménage. The Pear is a small fruit of Forelle or Trout. (S. F. H.).—1, Cobham; 2, Cockle's Pippin; 3, Margil; 4, New Hawthornden; 5, Round Winter Nonesuch; 6, Wadhurst Pippin. (D. C.).—1, Hollandbury; 2, Alfriston; 3, Dutch Codlin; 4, Court Pendu Plat; 5, Horned Pearmain; 6, American Mother. (P. P.).—1, Adam's Pearmain; 2, Claygate Pearmain; 3, Herefordshire Costard. (Cocke Nuts).—1, Marie Louise; 2, possibly

Comte de Lamy, but flavour lost through decay; 6, Warwickshire Pipplin. The others we do not know; they are either local seedlings or inferior fruits of named varieties that cannot be recognised. Good typical fruits are requisite for certain identification. (J. C.).—Besspool.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (L. G. A.).—A form of *Cattleya Loddigesi*; *Begonia metallica*; *Chrysanthemum (Pyrethrum) uliginosum*. (G. M.)—1, *Euonymus europæus*, the Spindle Tree; 2, *Maranta zebra*; 3, *Aspidistra lurida variegata*; 4, *Diplacus glutinosus*. (O. T.).—1, *Oncidium tigrinum*; 2, *O. ampliatum*.

COVENT GARDEN MARKET.—NOVEMBER 8TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3 0	to 5 0	Lemons, case	14 0	to 20 0
Cobnuts, per 100 lb.	70 0	0 0	Melons	0 6	1 6
Figs, green, per doz.	1 0	8 0	Peaches, per doz.	8 0	6 0
French, per basket	1 6	8 0	Pears, Californian, case	6 0	9 0
Grapes, black	0 6	8 0	Pines, St. Michael's, each	1 0	6 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	8 0	to 4 0	Lettuces, doz.	1 8	to 2 0
Aubergine, per doz.	1 6	2 0	Mushrooms, lb.	1 8	1 6
Beet, Red, doz.	0 6	0 0	Mustard and Cress, punnet	0 2	0 0
Cabbages, per tally	7 0	0 0	Onions, bag, about 1 cwt.	4 0	4 6
Carrots, per doz.	2 0	8 0	Parsley, doz. bunches	2 0	4 0
Cauliflowers, doz.	0 9	1 6	Potatoes, cwt.	3 0	6 0
Celery, per bundle	1 0	1 3	Shallots, lb.	0 8	0 0
Cucumbers, doz.	2 0	4 0	Spinach, per bushel	2 0	4 0
Endive, doz.	1 6	2 0	Tomatoes, per doz. lbs.	3 0	5 0
Herbs, bunch	0 2	0 0	Turnips, bunch	0 8	6 4
Leeks, bunch	0 8	0 0			

Trade very quiet.

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8 0	to 10 0	Lilium Harrisii, 12 blooms	8 0	to 12 0
Asparagus, Fern, bunch	2 0	2 6	lancifolium album	8 6	4 6
Carnations, 12 blooms	2 6	3 6	rubrum	8 6	4 6
Cattleyas, per doz.	10 0	12 0	longiflorum, 12 blooms	8 0	12 0
Chrysanthemums, white			Maidenhair Fern, doz.		
doz. blooms	6 0	9 0	bunches	6 0	8 0
yellow doz. blooms	5 0	8 0	Marguerites, doz. bunches	3 0	4 0
bunches var.	0 6	1 6	Mignonette, doz. bunches	6 0	8 0
Eucharis, doz.	6 0	8 0	Odontoglossums	5 0	7 6
Gardenias, doz.	4 0	6 0	Pelargoniums, doz. bunches	8 0	12 0
Geranium, scarlet, doz.			Roses (indoor), doz.	6 0	8 0
bunches	6 0	12 0	Red, doz.	6 0	8 0
Lily of the Valley, 12			Tea, white, doz.	8 6	6 0
sprays	18 0	24 0	Yellow, doz. (Perles)	5 0	7 6
			Smilax, bunch	8 6	5 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	to 8 0	Ferns, var., doz.	4 0	to 18 0
Aspidistra, doz.	18 0	86 0	small, 100	4 0	8 0
Aspidistra, specimen	15 0	20 0	Ficus elastica, each	1 6	7 6
Chrysanthemums, per doz.	6 0	12 0	Foliage plants, var., each	1 0	5 0
Oretons, doz.	18 0	80 0	Lycopodiums, doz.	3 0	6 0
Dracæna, var., doz.	12 0	80 0	Marguerite Daisy, doz.	10 0	18 0
Dracæna viridis, doz.	9 0	18 0	Myrtles, doz.	6 0	9 0
Erica various, doz.	80 0	60 0	Palms, in var., each	1 0	15 0
Euonymus, var., doz.	6 0	18 0	specimens	21 0	68 0
Evergreens, var., doz.	4 0	18 0			

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Secretary, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—Secretary, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—Secretary, Mr. Brian Wynne, 8, Dances Inn.



THE VILLAGE BOY.

WE hail with the greatest satisfaction the new movement that has resulted in the formation of the Agricultural Education Committee. The first meeting has been held. The members are men well versed in educational work, and better still, they have intimate knowledge of rural things. Some of them, perhaps, are a little too scientific, but they mean well, and they had better be in advance of their day than behind it.

Hitherto we have been too anxious to educate somehow, that we have lost sight of the real end of education—i.e., armour to equip one for life's struggle. We suddenly awoke to the fact that we, taking the lower and middle class, were an uneducated people, we fell to work with more zeal than discretion, and now there is much to be unlearned. The money spent has gained us experience if nothing else, but we must admit we have paid dearly for our lesson.

The country squire does not need the training suitable for the college don, or the lawyer that of the land agent, yet we in our wisdom as school managers provide one course of study, and one only, and each boy, whatever his bent, has to go through the same routine.

Are we altogether to blame? No, we are not. Our hands are tied fast, and at present we see little chance of them being loosened. Take an ordinary country parish—the school is voluntary or possibly "free" that is, undenominational (very few boards in the country). The managers will be the squire, parson, three or four of the largest farmers, and some of the small ratepayers, whose children give them a vital interest in the schools. In nine cases out of ten the school premises have been materially enlarged of late years, and yet every time the inspector comes he points out deficiencies and lack of space. He knows it is no use to urge great alterations; they cannot be compassed. The school rate is voluntary, and paid with a fair amount of cheerfulness. Neither parson, squire nor tenant can absolutely afford another penny, and there are no wealthy commercial people to draw on.

The teaching staff has perforce to be kept scanty; but, indeed, were endless money forthcoming, the teachers are bad to find; see the columns of any daily leading paper, read the scholastic journals, and the same is apparent.

The life of the school depends so much on the grant, that only paying subjects can be taken. Her Majesty's inspectors require so much, and are continually adding to the burden, forgetful of the fact that the ground is barren and the labourers few.

There is one point that these gentlemen have not touched upon, and to us it appears the crux of the whole matter. There has been a feeling abroad for some time that anybody is fit to work the land and carry on the agriculture of the country, but that only the best and brightest are needed in the towns. There is a distinct feeling of inferiority, a feeling which belittles rural work, and that unduly magnifies that of the town. Again and again have we heard it said by schoolmaster and parent, "Oh! that boy is too good to be a labourer; make him a clerk or shopman, anything rather than the land." The boy hears this, and gets exalted notions of himself, drifts into the town, either sinks or swims, or returns home a broken worn-out man.

The first step to take is to teach the dignity of labour. We none of us can go back farther in our ancestry than to the grand old gardener, and yet foresooth, now we think spade labour, or any acquaintance with Mother Earth, derogatory to our dignity! But of the earth we came, and to that earth we return.

It is the most mistaken notion in the world to suppose that skilled labour on the land finds no market. There are places open

to any number of men who understand their work, and an excellent wage waiting for them. There is the greatest difficulty in finding young men who can hedge and ditch and stack like the veterans. We know farms where quite aged men are kept on solely because none of the young ones have learned to do their work. There is neither the skill nor the despatch that there was twenty years ago. As for the stockmen they are at a premium, and a good shepherd may dictate his own terms. Mind, there is not a call for idle, worthless louts any more in the country than in the town.

We see Mr. Martin Sutton advocates three months of summer holiday. Is that with a view to the employment of child labour? What would become of the schoolmaster? He would not, in fairness, expect a twelvemonth's salary for nine months' work, and he has got to live. A love of the land cannot be taught by books alone, there must be some practical gardening and agricultural training. If the present masters were efficient they would be the best instruments, provided time was allowed them.

It has come to this, that many of the subjects now demanded by the examiners must be omitted, and others of a more practical nature put in their place. We know several village schoolmasters who are expert gardeners—could it be possible that such men be provided with (say three months' training) at some agricultural college to fit them for their new subject? Of course, they must not be put to any expense, and deputies must be found for their schools during their absence. This would be cheaper than finding new teachers for this branch alone, and we think the present men would be more in touch with their young pupils.

Dr. Somerville advises that gardening and bee-keeping be taught in the villages to give the men and boys fresh interest in their homes. We do not know where he comes from, but our village has raised champion gardeners, and the race is by no means extinct, and this without any extraneous help. There is an immense amount of good gardening in the villages. Of course there may be benighted places where horticulture is not followed to any great extent, but we do not know them. We are most convinced that any new teaching must be compassed by present machinery; but there must be a distinct class of what may be termed rural masters as in opposition to town masters. The best of the present men must be utilised, and young ones trained to fill the gaps as they occur.

What about the necessary fuel to make the machinery work? Those of us who live in the country and have had anything to do with technical work know to our sorrow how difficult it is to get classes of adults to study the various subjects set down in the lists. Only in comparatively few cases is there anything of a class. This arises partly from sparseness of population and partly from careless non-appreciation. We have not been allowed to draw on the bigger of the school children, we might not even send the big girls to a cookery, dress-making, or laundry class; now here is a great blunder. The villages, as a whole, are losing their share of this continuation educational grant, and consequently in such cases some persons are asking, why not spend the money allotted to the district through the elementary schools, and use it in teaching truly rural subjects?

After all, the children are the ones to get at; their minds are not only active, but receptive, and what is learned in childhood is not forgotten in mature age. There should be a committee formed of country school managers and masters to draw up a suitable syllabus of subjects, and present for the consideration of the educational department. No doubt from time to time the code would need modifications, but we should like to see a rough sketch drawn out. There are plenty of men (and women) in the villages whose suggestions would be of the greatest use, and it is the village people whose voice should command attention.

WORK ON THE HOME FARM.

Work has been so far put forward that twenty-four hours' heavy rain just fallen will cause no inconvenience. In some places with which we are acquainted we know it has been welcomed, for springs are still low and with a large head of stock coming up to the yards and a poor supply of roots, the pumps will soon be hard at work. A sharp frost

would open the pores of the soil and make ways for the rain to reach the wells.

Linseed cake is very dear, but cotton cake has fallen owing to a rise of 20s. per ton in the price of oil. A still further reduction of 10s. per ton in cotton cake is promised when new seed arrives with the new year, so it would be well to wait before buying, or at any rate only buy at the promised reduction. We believe cotton cake can now be bought for January delivery at £4 5s. per ton ex mill or ship.

There is already a strong demand for roots for the cow-keepers in the towns, and a friend who had a number of strong bullocks ready for winter feeding has been tempted by a liberal offer for them, and has also sold his Mangold at 20s. per ton. As he delivers to a keel on the river which runs by his land he has little carting and must have done a good stroke of business. He has a fair crop of Turnips, and now his bullocks are gone will have ample roots for the remainder of his stock.

Cabbage must be planted at once if they are to be put in the autumn. They will be fit for use next June. Plants may generally be had in the Fens along the east coast at 1s. 6d. to 2s. per 1000 on rail. It is time Wheat sowing was completed; late sown Wheat has many winged enemies, among which larks are most prominent. When harrowing the seed in it is a good plan to finish with two harrowings slantwise of the drills, so that the birds have greater difficulty in finding the rows. If the land be very clean broadcast sowing may be advisable, but it entails much harrowing to properly cover the seed, and spring hoeing would be made quite impossible.

Mangolds have grown well and late this season, but should now be in the store. They must be well strawed and earthed to preserve them from frost, for Swedes as a rule will be hardly worth storing, and we must take the best care of Mangolds; they are sure to be wanted.

RUSSIAN WHEAT.—Russia will not send us nearly as much Wheat as usual between now and next harvest. Her crops have not yielded nearly up to expectations. Accordingly there will be one important exporting country in a great measure cut off from us. Russia in time of plentifulness does not send so much Wheat as the United States, although time was when she sent more. So that, says a contemporary, with wars and rumours of wars, and a partial failure in one of our large Wheat-exporting countries, it appears that farmers might do well to hold stock. Fortunately, against a possible rise in the market we have a full stock on hand—so different from what it was in the time of the Leiter spec, when advanced prices ruled.

THE WORLD'S WHEAT CROPS.—An important review of the world's Wheat crops has been published from the Department of Agriculture at Washington. This not only gives the latest information—commercial and official—on the crops in every important country, but also discusses the various world's estimates already made. It is written by the Hon. John Hyde, the statistician to the department, who comes to the conclusion that the difference between this year's and last year's crops will materially exceed 800,000,000 bushels decrease. So far as the United Kingdom is concerned, Mr. Hyde put the yield at 33 bushels per acre. This is a very high estimate, Sir J. B. Lawes having put the crop here at 31 bushels, and this is practically the same as most other estimates.

THE DESTRUCTION OF CHARLOCK.—On May 14th last the Agricultural Society of Pithiviers (France) organised a demonstration with the object of studying the value of sprayers for extensive cultures, and also the efficacy of various substances recommended for the destruction of Charlock. The jury, composed of the chief growers in the district, was unanimous in admitting the accuracy of the machines presented. Classified by degrees of power, the products employed came out in the following order:—1, nitrate of copper; 2, sulphate of copper; 3, sulphate of iron. Iron salts, then, seem of least value, and occupy the last rank. Immediately after application of the toxic liquids the crucifers begin to wither. We may, then, conclude that henceforth farmers will be able to deal with a series of noxious plants which have hitherto cost them such a heavy annual tribute.—("La Nature.")

DAIRY HERDS.—Probably most other animals on the farm come no nearer to yielding a fair profit than dairy cows, but it is still the rule that they do not make as good a return as they should. Most farmers will sadly realise the fact that they possess a number of these unprofitable animals, and would like to find some way by which marked improvement could be immediately effected. Some animals can be greatly improved, as far as their productiveness is concerned, by better feeding. There are many cows giving only a moderate quantity of milk, which, if liberally fed, would quickly and greatly increase their yields. But this is not true of all cows, as there are many upon which high feeding, as far as milk production is concerned, is thrown away. The surest method of effecting a marked and lasting improvement in the dairy herd is by breeding and selection. In dairying, and, indeed, in all stock-farming operations, the principle of selection must be observed in order to produce the best results. Good management of a dairy herd consists in keeping only the best animals and weeding out unprofitable and unthrifty members. This system can be made to show great results if the cows are properly tested and graded, and it is hardly necessary to say that this improvement should be strengthened by good feeding and by the best possible care of the animals. A dairyman who keeps a duffer of a bull, and feeds his calves sparingly, will never be a success as a stock-breeder. He grows a lot of cattle that are bred crooked, and any good qualities that they may happen to possess are undeveloped on account of the poverty of their upbringing.—("Rural World.")



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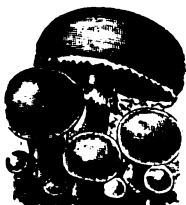
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Journal of Horticulture.

THURSDAY, NOVEMBER 16, 1899.

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REMINISCENCES OF AN OLD FLORIST

IT has become the fashion for people to write their reminiscences, recollections, or experiences—some of which are amusing, & some instructive, and others idle talk. Of course this plan has the advantage of enabling the person who writes to forestall any information concerning the life that he has led, and give his own version of it, so that anyone who writes afterwards finds that he has a poor task to fulfil. Thinking over these things, and recollecting much that I have read, I thought perhaps I might be able to write something of interest to readers of the *Journal of Horticulture*.

In looking back upon my eighty years I may say that I have lived two lives; one, that connected with my calling, the other with what I may call my recreation—horticulture. The character of my life has been a tolerably busy one, both as a clergyman and a gardener, but with the former of these Journal readers have no concern, and my recollections will have simply to do with the latter.

Let me explain the principles on which I propose to write. I am not one of those who think of the "old times" as better than these: on the contrary, I feel that in whatever department of horticulture I look the advance has been so great that it is a privilege for a gardener to live in these days, and I will also say that the particular line to which my experiences have been directed is that with which I head this paper.

I have all my days been a florist, by which I believe the great mass of horticulturists will be inclined to regard me as narrow-minded, incapable of appreciating true beauty, and shut in a narrow and exclusive circle. It is a race of men which is gradually becoming extinct. What is required nowadays are flowers of striking effect, not those remarkable for correctness of form or distinctness of colour. I have not, of course, confined myself to florist flowers, and of late years the herbaceous garden has occupied a good deal of my attention, and has brought me into connection with an entirely different class of men. I do not propose to indulge in any descriptions of those with whom I have met, save only as they are connected with gardening.

No. 2638.—VOL. CI., OLD SERIES.

As one draws towards the close of life one's views ought to be larger, kinder, and more charitable than they have ever been; we become more conscious of our own shortcomings, and are therefore more inclined to deal gently with those of others. My earliest years were passed in and in the neighbourhood of "dear, dirty Dublin."

I am sometimes asked when and how I became a florist, and I suppose I must answer in the spirit of the immortal Topsy, "I suppose I grow'd." About the year 1829 we removed to a place called Mount Andrew, where we lived in a villa residence, while a larger house was building for us in Dublin. I do not think that even then the virus of floriculture had affected me, but one day a schoolfellow, whose uncle lived in an adjacent villa, took me to see his garden, and there I saw what I have never forgotten, and of which I do not think I have ever seen the like—viz., two beds, about 20 feet long and 4 feet wide, filled with Persian Ranunculus. Where the owner obtained the tubers I do not know, but the flowers were certainly fair to behold. They were of all colours, from pure white to a deep black; they were edged, spotted, and striped; they were of colours very unusual amongst flowers, some being olive green, and others of the very deepest crimson. I see them now before me, and although it may be the idea of a boy, who never in after life eats such Apples as those he prigs from his schoolmaster's garden, and for which by-the-by he suffered ignominiously, yet I must say I think I am not exaggerating. Apples remind me of one variety that used to be abundant in those days around Dublin, and which one very rarely sees on this side of the Channel—the Irish Peach, and the most delicious I think of all early Apples.

So it happened, I think, from that forwards, gardening was one of the chief pleasures of my life. We soon moved back into Dublin, and there I became acquainted with a band of very earnest and energetic florists; some were growers of Carnations, others of Tulips, and others of Auriculas. They were the days when the enthusiasm for florist flowers was at high pitch. Well do I remember one enthusiastic grower of Carnations, who cultivated a small piece of ground attached to the Neath Hospital, and invited a few of us to spend an evening with him and inspect his flowers. In those days the luxurious practice of growing them in pots had not come into existence, and the two beds, which I so well remember, were in the open. The main object of the invitation was, I think, to see a couple of plants in flower of Twitchett's Don John, for which he had paid 2 guineas. Well, it was a very handsome flower of the scarlet bizarre section, but who Twitchett was, and where he lived, I do not know, but the flower had a very short reign of popularity; it was evidently, like many others of the section, a bad grower, and so soon passed out of cultivation.

Some years after this I made the acquaintance of one of the most skilful amateurs I have ever known—Dr. Plant of Monkstown, near Dublin. He had by this time introduced the practice of growing Carnations in pots, and some of the older varieties, such as Flora's Garland, Sarah Paine, Lady Lily, and several of Mr. Ruxley's flowers, were exceedingly well grown by him. This latter gentleman was a mine owner in South Wales, but he was also in part, if not whole, proprietor of the extensive copper mines in Castletown, Beerhaven, in the county of Cork, and finding the air of Swansea not so suitable to the growth of his favourites as that of Ireland, he used to send his plants over to Beerhaven to be grown. I do not think he was ever an exhibitor, but grew his plants from sheer love of them.

My recollections of Dr. Plant, however, were chiefly associated with the Auricula, and some of the flowers which he grew then I have never seen equalled: how seldom one sees, for instance, plants of Booth's Freedom and Page's Champion, yet I have seen them by the dozen in the Monkstown collection, and well do I recollect plants of the former with seven large pipes, exhibiting no sign of coarseness, but a sight to behold of beauty and refinement. He was a constant exhibitor at the shows of the Royal Horticultural Society of Ireland, and I felt very proud when I found that I had beaten him at one spring show, a plant of Fletcher's Ne Plus Ultra being of such exceptional merit that the judges could not get away from it; it was large, very large, but I

am afraid that had I it now before me I should call it coarse. There was another flower that he used to grow so well that I have never seen since, called Hey's Apollo, a fine purple self. His system of culture was rather peculiar; his plants were all grown in large pots, somewhat after the manner of the Lancashire "mugs," and would be considered nowadays much too large, but he used always to say, "If you want your boys to grow, you must give them plenty of room to grow in," a practice which no one nowadays would commend, but which was, as I have said, eminently successful. When I used to go down in the spring to see his collection it was a day always to be marked with the whitest of white chalk.

There were not many growers of the Auricula about Dublin then, and it may certainly claim to be the most aristocratic among florists' flowers, but I think there was as keen an interest among the select few as ever I have seen. To the outside world it appeared a very absurd thing to see three or four men poring over a little plant of Auricula and discussing the various minute points of correctness and incorrectness of both colour and outline, and it must be remembered that in those days we had no George Lightbody or Prince of Greens, and I do not think that many of the prizewinners of those days would be found in our winning stands now. I always feel glad at the recollection of them, and do not believe that there is any flower which creates so long and lasting an interest in the mind of the grower as the Auricula.—D., Deal.

(To be continued.)

THE FLORAL SEASON.

(Concluded from page 389.)

ANOTHER item of management that increased labour to a serious extent during the season was the long time it was necessary to continue the application of water. Never previously has there been occasion to water so late in the year, and though the plants that were watered were limited to those that would have failed without it, including such as Phloxes, Pentstemons, Hollyhocks, Begonias, Cockscombs and Calceolarias, and allowing such as Asters, "Geraniums," Chrysanthemums, Marguerites, Helianthus and many more to exert their own powers to gain sustenance, it proved through its long continuance a great leakage of labour. It became apparent early in summer that water alone was going to be insufficient to produce a vigorous growth, so occasional applications of super, and less frequently of sulphate of ammonia, were given with very happy results.

It seems to be a fact that pure water, if applied at frequent intervals, may become decidedly prejudicial; supplemented by manure in some form it becomes valuable. Growth, instead of remaining almost stationary, becomes robust and strong; foliage assumes a dark green instead of a yellowish hue, and flowers develop full proportions with deep or pure colouring in place of being small and in many cases insipid in hue; but I think one needs be very careful not to over enrich soil with manure, and so induce a sappy, unsatisfactory growth in flowers, and on that account flower borders are treated to manure only at longish intervals. A most important factor in their successful treatment, and one very patent, at least to myself, is a due breaking up of the soil, no matter how deeply it is stirred. Judging from the inattention paid to this matter by young men who come to me I conclude that this part of digging is almost always left undone.

Reverting to flowers, a selection of dwarf Cockscombs has given us great satisfaction. I have not previously attempted planting these outside, though Celosias have done well for several years. Among the more pleasing varieties is one very dark crimson in colour; it is a most effective form, and is planted with Canary Creeper as a groundwork. Equally pleasing, though less striking, is that with rose coloured heads. For this Wave of Blue Lobelia was employed as a carpet. A pretty and effective bed was largely composed of a variety of colours, the best of which, including the two already referred to, was a deep orange. In this instance a soft yellow variegated form of Erysimum præcox was used dotted among the Cockscombs. I tried Cockscombs also without any other plants in conjunction, but these were not so satisfactory. In a series of borders the prevailing tone of which is orange, Dobbie's Orange African Marigold has proved of great value. The plants were not placed direct into the borders, but were lifted when coming into bloom from a reserve bed; and this treatment, with not affecting their blooming qualities, has kept the plants dwarfer than they are usually found.

Among other common flowers that have been very satisfactory, and still continue to be so, are some white and red Verbenas from seed, among which a few plants of the delicately flowered Eragrostis elegans are dotted. Montbretias in masses have also proved of great decorative value. M. sulphurea latterly working itself into a foremost place in one's estimation. All the Montbretias are, however, most effective

plants, and well worthy a more extended use in gardens where effect is a desideratum.

Following the above, we had Asters competing with Helianthus, Japanese Anemones, Rudbeckias (glowing yellow and black), Tritomas in scarlet and gold, *Salvia patens* (true blue), and a little host of other flowers. Nothing is more delightful than the *Viminalis* group of Asters, of which White Queen and Cassiope are among the best. *A. pulcher* is also nice, habit perfect, with flowers of a pretty tint of blue. The white forms of *A. novi-belgii* are, I think, finer than usual, the plants are certainly less straggly. Of these *Purity*, though not the earliest, is the best. A good form of *A. acris* is also greatly to be desired among the finer hardy plants of the season. We are still waiting for a dwarfier habited variety of *A. novae-angliae roseum*, something analogous to the purple Robert Parker, which is indispensable at this time of year. *A. amellus bessarabicus* continues to hold a foremost place, and one feels surprise that the common type should still be cultivated in gardens when this immensely superior form has been so long in cultivation.

These and other Asters, in conjunction with *Chrysanthemums* of the border class, *C. uliginosum*, and quite a number of other flowers still blooming profusely, bid fair to make this one of the finest autumns for flowers that we have experienced.—R. P. BROTHERSTON.

NOTES ON FIGS.

EARLY FORCED TREES IN POTS.

THE trees in pots that are intended for forcing to afford ripe fruit at the close of April or early in May should, if they have been in the open air, be taken under cover to protect them from the cold autumnal rains. They will require to have the wood brushed over, using a solution of caustic soda and pearl ash, $\frac{1}{2}$ oz. each, to 3 quarts of hot water, applying carefully with a brush at a temperature of 130° to 135°. The dressing is intended to give red spider and scale their quietus without damage to the young fruit. Very little pruning will be necessary if the trees have been regularly stopped during the growing season. The house in which the trees are to be forced must be quite clean.

Forcing to have fruit at the time mentioned need not begin until the middle of November, and not later than the beginning of December. Early Violet, St. John's, Pingo de Mel, and Brown Turkey are excellent varieties. A mild bottom heat is essential to a successful swelling and perfecting of the earliest crops. The pots, therefore, must be raised on loose bricks, in pedestal fashion, and the pit be filled with Oak or Beech leaves firmly pressed. If the pit be not more than 3 feet deep, a third of sweetened stable litter may be added. Do not allow the heat about the pots to exceed 65° until growth takes place. The house should be kept close and moist by sprinkling twice a day in bright weather, employing fire heat to maintain a temperature of 50° at night, 55° by day, and with sun 60° to 65°. If the soil in the pots be dry, enough water must be supplied to bring it into a moist condition, but do not make it very wet, as this hinders rather than accelerates root action.

EARLY FORCED PLANTED-OUT TREES.

Trees in borders intended to afford ripe fruit at the end of May or early in June, being started at the new year, should now be untied from the trellis and pruned. Those with the roots restricted to small borders will require little more pruning than thinning-out the shoots where too crowded, but those not having the roots restricted will require a hard pruning at the upper part of the trellis. Fork the surface of the border lightly, remove the loose material, and apply a dressing of fresh turfy loam, not more than 2 inches thick. The roots can be fed through this by mulchings of sweetened manure, top-dressing of fertilisers, or liquid manure when the trees are swelling their crops. Ventilate the house fully at all times except when frost prevails, and at such times heat should be used to exclude it, or nearly so.

SUCCESSION HOUSES.

The trees started in February, to afford a first crop of fruit at the latter part of June, and a second crop of Figs in September and October, should be pruned, the house cleansed, and everything put into thorough order. Dress the trees with the solution of caustic soda and pearl ash before named. Complete root-pruning and lifting. Any unfruitful trees must be somewhat severely root-pruned, and the roots restricted to moderate-sized borders, depending more upon active feeders near the surface, encouraged by mulching and fertilisers, than a large extension of roots. Make the soil firm, employing one-sixth of old mortar rubbish and a similar proportion of road scrapings where the soil is deficient of calcareous matter and grit. To succeed with planted-out trees it is necessary to restrict the roots to a limited area, and keep the growths well exposed to light.

LATE HOUSES.

By late houses is meant those in which the trees are not started before March, affording a first crop in July, and a second during late

September or early in October, the structures being well heated. Late is also a term applied to unheated houses or wall cases which provide one crop in August and September. Trees in either of these that show a tendency to over-luxuriance should be lifted and root-pruned as soon as the leaves give indications of falling, providing good calcareous loam of a gritty nature over thorough drainage, and firming the soil well. This is an excellent remedy for trees casting their fruit. Immediately the leaves fall the trees must be detached from the trellis, pruned and carefully dressed, and the house cleansed, attending also to the border. In the case of unheated houses the branches of the trees should be tied together in convenient bundles and made secure against severe frost with some dry straw or fern amongst and over them, or matting. The collar also of the trees, and for a little distance from the stem, should be protected with dry litter. Frost must be excluded in heated houses, or nearly so, the trees sometimes being killed to the ground against walls when unprotected.—GROWER.

FARMYARD AND STABLE MANURE.

(Continued from page 356.)

IN continuation of our subject, we must say a word before coming to the question of manure on the composition of soils. All fertile soils contain two classes of constituents, known as organic or volatile, and inorganic or mineral. The organic portion of a soil is that which has been formed by the decay of plants, the inorganic that which has been the result of the disintegration and partial decomposition of the original rock masses.

Organic Constituents.—As the decay of vegetable matter proceeds in the soil there results a black or brownish-black substance destitute of organic structure, which is known as humus.

Humus has been called "the soil's storehouse of nitrogen." The chemical element—nitrogen—is one of the essential forms of plant food, and when bought in commercial fertilisers is the costliest. It must be pointed out that the nitrogen in humus, which may be termed organic nitrogen, is not directly available to crops, but is rendered so by nitrification, a process resulting from the activity of certain microscopic plants or microbes within the soil which live on and decompose the organic matter there present.

Recent research has shown that soil fertility is largely dependent on the presence of these microbes. Warmth, moisture, and air are primarily necessary for the development and reproduction of these micro-organisms; in other words, for the nitrification of the humus. Certain chemical bases also, such as lime and potash, must be present in the soil, so that as a result of this process nitrates may be formed—inorganic compounds which crops absorb by their rootlets for the supply of nitrogen. Farmyard and stable manures introduce into the soil these microscopic organisms in large quantities, a quality not possessed by commercial fertilisers.

Analysis has shown that the amounts of humus and nitrogen are, generally speaking, closely related, and that the former is a measure of the latter. A soil poor in humus is likely to be deficient in nitrogen. Fertile soils in temperate zones are always characterised by richness in humus and nitrogen. The colour of a soil frequently indicates its quality in this respect, dark brown and black soils possessing large percentages of these constituents. There are, however, exceptions to this, as the presence of much red oxide of iron (as in some sandy soils) may mask the colour of the humus.

The sources of humus in cultivated soils are practically three—the decaying roots of crops, farmyard manure, and green crops, such as Clovers or vegetable refuse, ploughed or dug in. In addition to nitrogen, humus contains certain small quantities of inorganic plant food, such as lime, potash, and phosphoric acid. These are liberated by the decay of the humus in forms most useful to plant nutrition.

Inorganic Constituents.—In furnishing or replacing in the soil mineral or inorganic plant food, practice has shown that as a rule it suffices to supply three elements—potash, phosphoric acid, and lime. Other constituents are required by crops, but the amounts used are so small that the soil's store of them is not seriously diminished by cultivation. Potash, phosphoric acid, and nitrogen are known as the essential elements of plant food, and have been termed the "Golden tripod of plant life," from the fact that it is continually necessary to return them in available forms if soil fertility is to be maintained and increased. For many soils lime must be added to this list, especially old and rich vegetable garden soils, which have a tendency to become sour.

The potash, phosphoric acid, and lime in farmyard and stable manure have once been present in the soil. Absorbed by plants, and the product used for the nourishment of animals, these elements are to be found in the excreta, minus small quantities which have been abstracted by the animal for the formation of bone. It is obvious, therefore, that they can be replaced in the soil by applying the solid and liquid manure of the farmyard or stable.

Without losing sight of the many secondary advantages to be derived from farmyard manure—advantages, as we have seen, both chemical and mechanical in their nature—the value of this source of plant food must be recognised primarily as depending on the amounts of nitrogen, potash, and phosphoric acid it contains and supplies, and it is from this standpoint that we must consider it. At the same time it may be well to repeat in concise form that the various useful and important functions of farmyard and stable manures within the soil are—1, in supplying plant food; 2, in liberating inert or unavailable plant food; 3, in the improvement of tilth, and thereby regulating the soil's absorptive capacity for moisture and warmth; and 4, in furnishing food for and fostering the development of certain useful microscopic plants known as microbes.—J. J. WILLIS, *Harpenden*.

(To be continued.)

ASPARAGUS DAVURICUS.

THERE is quite a large number of species of *Asparagus* that are well suited for growing in hanging baskets, all of which have their special merits, but for gracefulness and beauty none comes before the one under notice. In general appearance it resembles, to a certain degree, the ubiquitous *A. officinalis*, but is more elegant in habit than that plant. During the first three or four years of its life it makes slender, arching shoots 2 to 3 feet long, covered with pretty light green foliage. After this age the growths become coarser, and the plant is better transferred to a border.

To obtain the best possible results, seeds should be sown in spring, and the young plants grown in rich soil for twelve months. When growth commences, two or three plants from 5 or 6-inch pots must be placed in wire baskets 18 inches across, which have previously been lined with good fibrous loam or peat. The compost used should consist of good loam, with decayed manure and sand. After planting, the baskets should be placed in heat until the shoots are growing well; after this an intermediate or cool greenhouse will suit them admirably. As soon as the baskets are well filled with roots, liquid manure or some good fertiliser may be given frequently.

By this means beautiful baskets of greenery 3 feet deep and 3 feet through can be had up to the end of October, when the foliage turns to a pretty yellow, lasting in this stage for several weeks. The best results are obtained by renewing from seeds every two years; by this means coarse shoots are avoided, and the plants are handier to deal with.—W. D.

ARBUTUS UNEDO.

AT this season of the year, when deciduous plants are bare and leafless, evergreens of any sort are more prominent than in the summer, when they are apt to be somewhat overlooked in favour of their showier, but more ephemeral, allies. Of evergreens *Arbutus unedo* and its varieties are worthy of more extended cultivation than they receive, both for forming backgrounds for other plants and for single specimens in places where a bold plant is desired. As a rule they have very little to recommend them in a small state; it is only when they have attained a good size that they begin to show their real worth.

The flowers open any time between November and February, according to the season, and *Arbutus* are practically the only shrubs that bloom at that time, which makes them doubly welcome, though the pendulous racemes of flowers would command attention at any time. *Arbutus* cannot be transplanted with any certainty of success, and should be kept in pots until they can be placed in their permanent quarters.

A. unedo, the Strawberry Tree, is a native of south and south-west Europe, and is also found wild in small numbers in some parts of west Ireland. It forms, when well developed, a dense rounded tree 12 to 20 feet high, with numerous branches clothed with thick dark green shining leaves, about 2½ inches long by 1 inch broad, coarsely serrated on both margins. The flowers are small, tubular, and white, and are borne in dense drooping terminal racemes. It is a variable plant, and, apart from the varieties named, a considerable amount of variation can be seen in those which may be termed typical plants. In some the leaves are longer and narrower than in others, and while the young wood of some is glabrous and shining, in others it is quite hairy.

A. u. rubra (syn. *A. Crooni*) is a good companion to the type, having flowers of a bright reddish hue; the young wood is also red and quite glabrous. It differs also from *A. unedo* in having the leaves more coarsely toothed. *A. u. microphylla* has leaves much smaller and narrower than the others; the white flowers are also smaller, and it does not grow more than about 6 feet high. *A. u. quercifolia* has irregularly toothed leaves, which have a certain resemblance to those of an Oak; in other respects it resembles *microphylla*.—C.

ALLINGTON REVISITED.

ABOUT five years ago the Allington Nurseries of Messrs. [G. Bunyard & Co. were visited by a stranger, who was immensely interested in what was to be seen. A few weeks ago came the opportunity for a second pilgrimage, and with memories of the first still lingering, the tide was taken at the flood. A moderately early start enabled me to reach Barming station, which is practically within the confines of the nursery, by 10.30, and under the immediate



FIG. 77.—APPLE BEN'S RED.

guidance of Mr. Geo. Bunyard, V.M.H., fruit trees were immediately under inspection. Here are not a few hundreds of trees of various kinds, shapes, and sizes, but very many thousands, and it would be beyond the power of any ordinary person to traverse the whole of the ground and see the entire stock in a day. We therefore did what was undoubtedly the wisest thing under the circumstances, and that was going completely under the direction of our guide, which led on highways and byways, over many acres of ground, through innumerable quarters of standards and dwarfs, pyramids and bushes, fan-trained and espaliers, cup-shaped and gridirons, some young, some old, but all strong, healthy, and perfectly clean.

The very protracted period of drought had scarcely passed when Allington was seen, and close watch was kept as progress was made for traces of poor growth in the several quarters. This was, however, conspicuous only by its absence, for the growth on maiden Plums, Pears, Apples, and Cherries was nothing short of remarkable, and of the whole the last named was the most striking. The secret was not far to seek, and was found in thorough cultivation by the aid of a pony-drawn hoe, which passes and repasses down the alleys throughout the summer months. The persistence in this practice insures the surface of the ground being kept constantly loose, thus arresting to a large degree the evaporation from the soil of the little moisture it contains. It is probable there is no firmer believer in such surface tillage than Mr. Bunyard, who has long since realised that it invariably means good results. There can be no doubt but that the observance of this detail plays a most important part in the production of the splendid trees for which the Maidstone firm is so celebrated the country over. Not only do the tops derive benefit, but the roots also, there being simply masses of those fibrous feeders, which ramifying close to the surface are constantly finding fresh and good food for the benefit of the stems, leaves, and buds above. The admirable character of both top and bottom growth can easily be seen as the work of lifting proceeds.

Apples alone would provide abundant material for a long article, but a paragraph only can be devoted to them. Needless to say practically every known variety is to be found at Allington, and these are trained in all the most popular forms. Standards are there in immense numbers, and it is a striking fact that none of these, with the exception of a few varieties that are recognised as notoriously bad growers, is ever staked. None the less the stems are straight and clean, and carry beautifully balanced heads. It would be superfluous to enumerate varieties of standing, but we may refer to Ben's Red, a new variety which promises to become exceedingly popular as a market Apple. It is a small, flattish variety, bright red in colour, and a heavy bearer. The flavour is moderately good, but the flesh is firm and juicy. This is well represented in the woodcut (fig 77). Then of comparatively new ones there are Jas. Grieve, Foster's Seedling, and the now enormously popular Allington Seedling. This Apple will ere long become one of the favourite varieties, as it is a persistent bearer, and grows equally well in any soil. On Tuesday, November 7th, Messrs. G. Bunyard & Co. sent to the Drill Hall a new Apple, of Mr. C. Ross' raising, named Mrs. Phillimore. This is

represented in fig. 78. It is an excellent variety. The shape is flattish, with prominent ridges on the crown, which gradually disappear as the base of the fruit is reached. The half open eye has erect segments, and is set in a deep basin. The stalk is very short. The colour is bright red on the sun side and yellow on the shaded side. Both this and Ben's Red have received awards of merit.

Pears are usually considered, and it must be admitted with some justification, as a fickle crop, and this year's reports from various quarters have recorded very different results. It may be accepted that those varieties that have done really well this year will thrive satisfactorily in the majority of seasons. Of these Princess, Petite Marguerite, Directeur Hardy, Emile d'Heyst, Dr. Jules Guyot, Conference, Durondeau, and Fondante Thirriott were unquestionably the best. Others have borne comparatively good crops, but none to equal the above. Of Pears Mr. Bunyard estimates his stock at 100,000, this total including young and old trees of all shapes. Marguerite Marillat is a Pear of many desirable qualities, which received an award of merit from the Royal Horticultural Society some weeks ago.

Notwithstanding the exceptional excellence of the Apples and Pears, the Plums and Cherries are probably superior. Of the latter the stock of young and old trees of varied forms is enormous, and yet Mr. Bunyard affirms that he can scarcely meet the demand. A new piece of ground, occupied by Cherries, has been christened Klondike by the men, and the hopes of the firm are that the name will prove a true one. These, with the Plums, comprise all the best varieties. Of the latter the numbers of the most popular sorts run into thousands and the growth they have made during the past dry season is nothing short of remarkable. The shoots are clean, straight, and very firm in texture. Peaches and Nectarines occupy a goodly share of attention and space, but their numbers do not range so high as in the case of the kinds previously mentioned. Then, too, there are the Logan Berry, Wine Berry, the Guinea, and other Raspberries, Gooseberries, Currants, red, white, and black—in fact, every kind of hardy fruit except Strawberries, which are at Chiltern Hundreds, and pot Vines, which are at Maidstone. We must not leave the fruit without a word about the new Black Currant, Boskoop, which is regarded with much favour at Allington. It is a grand cropper, and, what is perhaps more important, it is free from the mite.

It has been assumed by some persons that Messrs. Bunyard & Co. confine their energies strictly to fruit tree production. This, however, is by no means the case, as several acres of ground in the different nurseries are devoted to shrub and tree cultivation, while of hardy flowers the collection is singularly complete. Everyone who goes to Allington in the summer to see the fruit ought to spare a little time for the flowers and the Conifers, as they are a never failing source of interest and instruction.—R. H. R.

FRUIT TREES IN POTS.

(Continued from page 350.)

Now for a few examples of what has actually been done at Gunnersbury House in the way of succession of crops in one house in the course of a single year, and of the other uses to which these erections have been put, such as wintering plants that are not hardy.

In the first place, the trees that are eventually to fill three houses may, until the fruit is set, be kept in one house, with much consequent economy of space. Then upon the ground, beneath the foliage of the trees, and between the pots, boxes or pans of Hyacinths, Tulips, and Daffodils can be placed, and grown in this position until they are required elsewhere when in bloom. Shelves are provided, too, for Strawberries in pots, and these can be grown all through the forcing season.

When the fruit has all been gathered, and the trees have become sufficiently hardened to be taken out of doors, another crop should follow at once. For this purpose I would recommend Melons, but Cucumbers or Tomatoes might of course be selected. Another good use to which to put one of the available houses is to fill it with pot Vines to be fruited in the autumn, small-berried kinds that are grown for their flavour, such as the Frontignan varieties, the Strawberry Grape, or Dr. Hogg. If Vines are raised at home for fruiting in pots in the spring, they may now be brought into one of these houses from which the early-forced trees have been removed. By the end of September the house that was devoted to Melons will be again empty, and may be filled with such plants as Chrysanthemums.

These are only a few of the many alternatives that may be adopted, and others will readily suggest themselves as suitable in different cases. In my own case in particular, for the fruit ripened during the year 1898 in one house, the routine was as follows:—The pot trees were started on December 1st, 1897; by the end of May the fruit had all been gathered, and the house was well ventilated until the end of June, when the trees were all taken outside. The house was then immediately prepared for a crop of Melons, which were planted on hotbeds; the plants had in the meantime been grown

on elsewhere, and thoroughly established in 6-inch pots, so that the Melons had all been cleared out by the end of September. Figs in pots were then brought in from other houses, where they were somewhat overcrowded, or had to make room for Strawberries in pots; these were about ripening their fruits, after the gathering of which they were retained to ripen their wood, and before the 1st of December had been removed to another house. Three crops had thus been produced in one house in the course of twelve months, though the Figs were beginning to ripen when brought in.

In another house the succession has been as follows, in the first place, early forced Cherries in pots, ripening throughout May, then Dessert Plums in pots for the late summer and early autumn, followed by Chrysanthemums brought in at the end of September. There are two divisions devoted mainly to Strawberries; here we have in rotation early Strawberries, Figs in pots, followed by late Strawberries, such as St. Joseph, fruiting in the autumn, and thus secure from frosts. Other examples could be quoted, but these are sufficient to illustrate the way in which we secure a succession of crops.

Whether forcing is adopted or not the orchard house culture of pot trees is equally to be recommended. If the house is divided into three divisions forcing can be taken up with a certain prospect of success, and the period during which any particular fruit can be supplied will be greatly lengthened. Of course, if a larger number of divisions is at command, much more can be done.

At Gunnersbury House we have five divisions devoted mainly to fruit trees in pots. The first, Peaches and Nectarines, begin to ripen at the end of April, and continue in a regular succession till the end of July; there is a break during August, as the demand during that month can easily be supplied from the open wall, but with September the supply from the pot trees begins again and continues until about the middle of October. For very early forcing we find that Nectarines are far more suitable than Peaches. Cardinal and Early Rivers are the first Nectarines to ripen, coming in the order in which they are mentioned here. Plums begin to ripen during the first week in June, and stand the forcing remarkably well, producing very good crops till the middle of July followed by the unforced trees at the beginning of September and continuing until nearly the end of October. Cherries are forced in quantity, the first ripening in April, and the

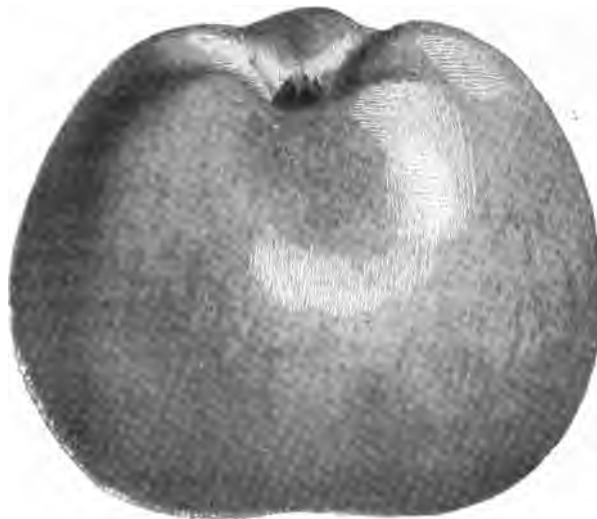


FIG. 78—APPLE MRS. PHILLIMORE.

crop continues until the earliest varieties on the open walls are almost ripe. A separate house must be devoted to them, as they require different treatment from Peaches, Nectarines, and Plums. One division is devoted to the early forcing of pot Vines.

Apples and Pears receive comparatively only a small amount of attention under glass. No attempt is made to force them on in any way. Round the sides of the large houses Tomatoes have been grown in pots, ripening in June and July; this helps to fill up any vacant space. Strawberries on shelves are introduced into nearly every house that is forced; two divisions are entirely given up to them, and the supply from inside and outside together extends over about nine months of the year.

The early Fig supply commences during the latter half of February; the supply of late Figs continues throughout the autumn months, finishing by the end of November. The Peaches, Nectarines and Plums are, as a rule, allowed to flower and set their fruit in the same house, standing closely together, and occupying one-third only of the space that they are destined to occupy subsequently. The Cherries must on no account be put into the same house as those just referred to.—J. HUDSON, Gunnersbury House, Acton.



N.C.S. FLORAL COMMITTEE.

On Monday last there was a meeting of the Floral Committee of the above Society at the Royal Aquarium, Westminster, Mr. T. Bevan presiding.

A first-class certificate was awarded to Ralph Hatton, incurved, large flower, silvery mauve, inside florets rosy mauve; broad, tightly incurved florets; flower of good type. From H. Weeks, Thrumpton Hall Gardens, Derby.

Commendations were awarded to General Symons, immense incurved flower, pale golden buff, inside of florets pale crimson, medium width, from Mr. Weeks; Vicar of Leatherhead, large graceful Japanese, build similar to a Carnot, colour golden yellow, deepening in colour in centre, long, medium, slightly twisting and curling florets, from H. J. Jones; George Towers, medium sized Jap, very bright rosy purple colour, silvery reverse, broad florets of medium length, and slightly pointed, commended for its colour, from Mr. Weeks; Mrs. F. B. Garrard, another medium-sized Jap, rather broad florets of poor substance, colour primrose, deepening to yellow in centre, very pleasing colour, from Mr. T. Priest, Cherry Tree Lane, Iwer Moor, Bucks; Mrs. Grogan, an incurved variety of a rose pink colour, with broad petals, also from Mr. Priest; Little Pet, a pretty small flowered single, colour rose pink, of good form, free flowering plant, from Mr. G. W. Forbes, The Gardens, Regent House, Surbiton.

The Committee wished to see again Capt. A. D'Albert, Flying Fox, and Arthur King. Votes of thanks were passed to Mr. Priest for an exhibit of seedlings, and to Mr. G. Bear for a similar exhibit.

CHRYSANTHEMUM CHALLENGE VASES.

It would be very interesting to learn, after the pressure incidental to show reports is over, the opinions of Chrysanthemum exhibitors who are large growers as to their regard for challenge vases or cups. It is very well known that probably the oldest, and at one time the most notable in the kingdom, was that of the old Kingston Society. From its original institution many years ago till last year a vase valued at, and costing £25, was provided, with moderate cash prizes for twenty-four Japs and twenty-four incurved; but in the two years during which the last vase was in competition the entries fell to four, and in years previously they seldom exceeded five. As of late the cups had been won outright in two years, it was in the matter of expenditure practically adding £12 10s. to the prize money each year.

This year the old cup class was displaced by one for thirty-six Japs, distinct, with four money prizes of the value of £21, and the result was five entries. Yet complaint was made in some directions that the show had suffered by the abolition of the cup class. Now last year, each competitor paying an entrance fee of 2s., the entire produce was ninety-six Japs and ninety-six incurved, or a total of 192 flowers. This year, the exhibitors paying half a guinea entrance fee, there was a total of 180 flowers, all fine, and making a far superior show to what was made the previous year. How, then, could the show have suffered because of the abolition of the cup class? Still it would be interesting to learn whether exhibitors prefer cups to good cash prizes.—A. D.

THE VASE CLASS AT THE AQUARIUM.

WHILST looking at the competition evoked by the all too liberal prizes offered for Chrysanthemums in vases at the recent Royal Aquarium Show, an eminent grower and exhibitor remarked, "We seem only to have gone from one formality in staging flowers to another." That exactly represented my own opinion, but I had farther held that the change was rather for the worse than for the better; for whilst flowers set up in boxes may seem flat and formal, at least the blooms are seen advantageously. But in this great vase class, whilst the exhibits were arranged in formal lines, at formal heights, on long formal tables, they were all staged in vases that were throughout far more prominent than were the flowers, and were indeed to anyone of taste most offensively intruded.

The receptacles employed may be the best that our insular art can devise, but they absolutely lacked beauty, and really detracted from the excellence of the flowers in them than added anything good to them. The blooms shown, especially those of the two best exhibits, were remarkably fine. Of their kind they were superb; but after all, how relatively unattractive as exhibited! Whatever may have been the general appreciation of the blooms by onlookers, not

one could admit that generally the entire exhibit was beautiful. Should this class be perpetuated it is much to be hoped that competitors be allowed a free hand in decorating their collections with plants and foliage just as they may prefer, uniformity in that respect being undesirable.

But whilst no points should be allowed for the decoration, the merit of the exhibits being looked for in the quality of the flowers shown in the vases, disqualification should follow in any case in which the exhibit was not dressed as mentioned. Such an arrangement would suffice to insure something far prettier than was seen the other day, and would not add to the heavy duties of the Judges in making the awards. But to deal with such a class fairly in such a hall as is that of St. Stephens, two broad tables, certainly not less than 6 feet wide, should be placed at their disposal. These must be parallel to each other, and be fully 10 feet apart—the exhibits being arranged on each table to face to the centre, and in three rows, or in a space from 8 to 9 feet long.

That would enable competitors to do their very best, primary consideration being given to the exposing of the blooms fully to view. Care should be taken to have some distinctive or dividing line of plants between each exhibit, the entire length of the tables being faced with small Ferns, drooping variegated Panicum, Isoplepis, with any suitable small foliage plants added. If such an arrangement did not in the hands of experienced plant decorators create a class of singular beauty and wonderful attraction, then would plants and flowers utterly fail to furnish such charms.—D.

GROWING DWARF CHRYSANTHEMUMS.

DWARF Chrysanthemums are very effective when in bloom, and for many purposes form valuable decorative plants. They are extremely useful to the exhibitor who employs them to finish off his groups of larger Chrysanthemums, or to add effect and brilliancy of colour to a miscellaneous arrangement of plants; in fact they are useful as dot plants in any large floral arrangement. They break up hard straight lines, and lend themselves to tasteful association with green foliage, especially Ferns. For placing among other plants on greenhouse staging they are none the less serviceable, because being portable they may be raised to any height required.

For room and window decoration dwarf, bushy specimens in full bloom are exceedingly attractive. Such plants will last a long time in a light, cool window, and for vases in a room they may be employed occasionally for a limited period, as the Chrysanthemum is not adapted for remaining long in a semi-dark position, the foliage soon suffering.

There are various ways of cultivating dwarf Chrysanthemums, and in these notes I will first mention one that is not generally adopted, but yet is a useful method of dealing with dwarf cultivation. This refers to the growth of old cut-down plants, such as have flowered the previous year. The suckers from the base of these, instead of being taken off and inserted as cuttings in December or the following months, are allowed to grow, but they should develop under the hardest conditions, preferably under the shelter of a wall with the pots plunged in ashes. If such a position is not available or prove unsuitable, the next desirable place is a cold frame, from which the lights can be removed on every favourable occasion. When the lights are not off air should circulate freely, except, of course, in severe weather. All weakly growths ought to be cleared off the plants, so that none but the stoutest and cleanest growths are permitted to develop. The soil must be kept moist. Towards the end of March the lights on the frame may be entirely dispensed with.

Continue careful attention, and about the middle of May the stout and sturdy growths which are available may be prepared as cuttings and inserted singly in small pots in the usual mixture of loam, leaf soil, and sand. A frame can be requisitioned, but this time it should cover a mild hotbed on which the pots may be placed, but near the glass. Water in the cuttings, and apply shade to the glass during bright sunshine. Lightly dew the plants over each afternoon, keeping the lights closed. As soon, however, as it is seen rooting has commenced admit air gradually. When fully established—and this must be watched for, as all will not be equally advanced—take out the plants, giving them a cooler and more airy position close to the glass in another frame. Admit plenty of air, and attend strictly to the watering, examining the plants several times daily for this purpose.

The growth must be kept dwarf and sturdy, and to insure this the repotting should not be delayed after the small pots are fairly furnished with roots. If these plants are allowed to become root-bound the growth will become spindly because of the check which is thus given. The plants may be repotted into the 6-inch size, using a compost of three parts loam, one of leaf soil, and one of decayed manure, with a sprinkling of wood ashes and bone meal. Drain the pots efficiently, and in potting make the soil very firm about the plants. Some of the strongest rooting can have 7-inch pots. Each plant must have a neat stake to keep the growth upright. Syringe the plants freely for a day or two, but apply water to the roots before the leaves flag.

The after culture consists in regular attention to watering. The first bud which shows on these plants will give a good flower if its appearance is not made earlier than August. If a bud should appear in July nip it out and grow the shoot to the next. This makes the plant taller, but a better flower results. The side growths round the bud may be gradually rubbed out, and all small shoots starting from the axils of the leaves dispensed with as they appear. Commence to feed when the buds are thoroughly set, giving weak supplies of various manures several times weekly.

The next method of dwarfing Chrysanthemum is the one most generally adopted and was originated by Mr. Orchard. Plants are established from cuttings inserted in winter in the ordinary way, and grown strongly in 6-inch pots until June, when a commencement is made in cutting back the stems to 4, 6 or 8 inches. The plants should be well furnished with leaves, to the base if possible. The varieties which bloom late may be dealt with, following in a week with the midseason, and last of all the early flowering varieties. After the plants are cut down they must be placed in a frame and given no water or very little until fresh growths push. The stems may be syringed, which will supply the moisture necessary and encourage the buds to break. The best of the shoots resulting must be retained. Three or four will be ample. When they are about an inch long, the final potting may be carried out, giving them pots 8 inches in diameter. Tie the growths to a central stake loosely as they advance. No further topping will be necessary, and the first buds which show may be taken if they do this at the middle or end of August.

Still dwarfier plants may be obtained by inserting the tops of the cut-down plants, immediately the cutting down is effected. They will root in small pots in a warm closed frame. Gradually expose to air as they become established, and when well rooted shift into 5 or 6-inch pots. These will only be able to produce one flower each, but with proper attention and culture the blooms develop into good medium-sized specimens, and if the foliage is retained to the base it improves the plants.

Some varieties of Chrysanthemums are naturally very dwarf even when not stopped or cut back in any way, and if cuttings are rooted rather late, say in April, the plants from these will be much dwarfier. When the cuttings commence to grow well after rooting take out the tops, and on breaking into growth place into 7-inch pots. Stake and put the plants in their summer quarters, watering carefully at first, but freely afterwards as the pots become full of roots. Retain the first bud which shows, and secure a good development of this by judicious feeding. It is only the Japanese varieties which succeed so well when cut down.—E. D. S.

GOOD VARIETIES FOR CUTTING.

In the race for new varieties, I fear we sometimes discard old favourites which will still hold their own against all comers for certain purposes. I do not here refer to blooms grown for exhibition, but for supplying medium-sized flowers for cutting on long stems, the type which find the readiest sale in the markets. I find pink and mauve pink varieties are in considerable demand, and the markets are seldom glutted with them. A fine early variety which comes in just in advance of Lady Selborne is O. J. Quintus; the flowers are of a taking rose pink colour, are borne on stiff stems, and the plant is a good doer.

Our old friend James Salter begins to flower just as the preceding one is past its best, and among a number of varieties of similar colour I find none sells so readily as this "pink Selborne." When a little heat is kept constantly in the hot-water pipes to bring out the flowers quickly their colour is a delicate mauve pink, a shade at the present time quite fashionable, and therefore in demand. Growers for market will do well to raise a stock of J. Salter for next season. W. Tricker, which was at one time considered a fine show flower, has now fallen out of the ranks for that purpose, but it is a grand variety to grow for supplying cut flowers. Being a very strong grower, a large number of good flowers may be produced on a plant in a 9-inch pot; these being rose pink in colour sell readily, and the variety is one of the most profitable to grow with which I am acquainted.

White and Yellow Lacroix are each good selling sorts, but they need to be well grown in an exposed position during summer, and kept near the glass when housed, or the peduncles are too weak to support the flowers. The man who can raise a Lacroix with a stiff stem will be lifted far on the road to fortune. Ryecliff Glory, a much more recent introduction, is grand in every way, and is a fine market variety, especially in regard to stiffness of stem and pleasing colour. Source d'Or, yellow and bronze, are good sorts to grow, as the flowers are attractive and the plants grow strongly. These two varieties require to be rooted early, and stopped frequently.

W. Holmes (rich crimson) and W. H. Lincoln are too well known to need description, and are still able to hold their own against varieties of similar colour. Bertha Rendatler, an old sort, is still one

of the best, as the flowers are uncommon in appearance, being a pleasing mixture of yellow, rose, and bronze.

Turning to late varieties, we still rely principally on comparatively old varieties; but two modern ones are grand acquisitions. I refer to H. W. Rieman, a fine yellow, a little later than Lincoln; and Princess Victoria, a good full white, now largely grown. W. H. Lincoln ought not, however, to be discarded now that a rival has appeared, as it is such a good doer, can always be relied upon to flower, and by selecting the terminal bud it flowers from Christmas to the end of January. For flowering throughout December there is yet no white to beat Niveus, and Lady L. Canning is an excellent white for blooming during January and February. It requires to be well grown to give satisfactory results, as many cultivators have been disappointed in failing to flower it satisfactorily. I find her ladyship requires plenty of feeding, as she is not a strong grower. This year I have a good stock of plants, and every shoot is now showing bud, though at one time I was rather dubious about their doing so; but by leaving the plants in the open air till the middle of October, and applying chemical manures once a fortnight, the shoots have hardened wonderfully since September. I find the best results are obtained from plants two years old. Those who rooted cuttings last December or January should shake out the stools next spring, repot into smaller pots, and transfer to the flowering ones in May. With a little stopping and high feeding two dozen good flowers can then be grown on a plant in a 10-inch pot.—MARKET GROWER.

KING OF YELLOWS.

No exhibitor of incurved flowers can afford to do without this grand variety. It is brighter in colour than C. Curtis, the petals are broad of the true incurved type, and the bloom large and deep. It will, I think, prove a great rival to Chas. Curtis, and it is, in my opinion, by far the finest bright yellow we have. The only plant I have grown of it has done remarkably well, and each shoot has produced a fine bloom. To friends and foes alike I say, Try King of the Yellows.—H. D.

DIVIDING THE JAPANESE INTO SECTIONS.

In every instance where the attempt has been made to separate the varied forms of the Japanese by offering prizes for incurved shapes or reflexed forms, has ended in failure. This perhaps would not be so if every bloom were exhibited in its true character. But who is to say what is the true character of a sort that produces recurving-shaped flowers from early buds and incurving ones from late buds?

The National Chrysanthemum Society has attempted in its catalogue to give a list which is binding to that and affiliated Societies, but the list is practically useless, because it is not revised annually. And even if it were the matter would rest with the Judges, because they would insist upon each flower being as it is represented in such list. In every case we have met with the whole of the stands should rightly have been disqualified. This, however, would be unpleasant, and the fault lies with those who compile the schedules.

Division should not be thought of. It sounds well and appears to create an element that is fresh, but in the working it is a failure. A stand of Chrysanthemum blooms all of one type cannot be compared in beauty to one of varied shades, nor is it so interesting to the general visitor, who finds all types together the more attractive, if good, of their kind. If, therefore, schedule-makers for next year be on the look out for something that is fresh in the way of exhibiting blooms of Chrysanthemums, we would ask that they go in any direction except the one heading this note.—JUDGE.

FRENCH RAISERS OF CHRYSANTHEMUMS.

I HAVE only just seen the Journal for November 2nd, having been away at the Lyons Show, and have read the article by "Experto Crede" on this subject. I agree with what he says about M. Auguste Nonin, having watched with some interest the productions of that gentleman since I first made his acquaintance as President of the Paris Committee three years ago.

On my journey to Lyons I had a few hours to wait in Paris, and to utilise them to the best advantage, took a cab and drove off at once to M. Nonin's nursery, which lies in a southern suburb beyond the city walls. The time was well spent, and as soon as the rush of matter slackens somewhat I hope to tell "Experto Crede" and other readers what I saw there.—C. H. P.

FERNCLIFFE, APPERLEY.

MR. W. BUTTERS, gardener to Briggs Priestly, Esq., M.P., is again to the fore with some excellent flowers, both for grouping and for showing on boards. The display in the conservatory must be most gratifying to Mr. Briggs Priestly and his friends. The incurved varieties are some of the best flowers I have seen in the neighbourhood, well built up and shapely; a few of the best are worth noting: Madame Ferlat, Yvonne Desblanc, Duchess of Fife, Charles Curtis, a remarkably fine flower; Brookleigh Gem, Lady Isabel, George Haigh,

J. Doughty, and Ma Perfection. Amongst the Japanese were some excellent flowers of Lady Hanham, very richly coloured; Mutual Friend, Charles Davis, very good; Lady Byron, Pride of Exmouth, M. Louise Rémy; excellent flowers of Edith Tabor, J. Chamberlain, Eva Knowles, C. Harman Payne, Madame Gustave Henry, Mrs. R. Jones, H. H. Spencer, Richard Dean, and Lady Ridgway. A new Australian variety, Nellie Pockett, is worth mentioning; the flowers are of a good white, and fine for exhibition; the plant is not a tall grower, and easy to manage. A few good flowers of Anemones Mrs. Caterer and W. W. Astor were conspicuous in the group. The early vinery and Peach house are filled with serviceable bush plants, half disbudded, for succession. In the late vinery were some tempting bunches of Black Alicante, well berried and grandly coloured.

AN ARDENT AMATEUR.

MR. THOMAS BIRD is an enthusiastic amateur grower and exhibitor. His vocation confines him for eight hours in a signal box close to a tunnel in a smoky suburb, and he is therefore delighted when his work is done and he can find recreation amongst his Mums. There are few working amateurs who have such an all round knowledge of Chrysanthemums as Mr. Bird, and the intelligent way his plants are grown leaves no doubt that there is a man at work with more than ordinary knowledge of gardening. The garden is an allotment plot on the Shipley and Thackley Road, Windhill, where several good growers have greenhouses. Mr. Bird's house is a commodious span-roof, specially built for Chrysanthemums. The plants are nicely arranged, so that they can be attended to with watering and still present a pleasing effect to the eye.

Amongst the incurred several very good ones were noted, including Topaze Orientale, very fine indeed; Mrs. N. Molyneux, Ma Perfection, Madame Ferlat, Mrs. R. C. Kingston, Lady Isobel, Miss Violet Foster, Miss D. Foster, C. S. Bates, Duchess of Fife, Ernest Cannell, excellent; and Globe d'Or. The Japanese are very good also, and are sure to give a good account of themselves at this week's shows. Amongst the newer ones we noted Mrs. H. Weeks and Nellie Pockett, two of the best whites in the collection, with fine florets and good habit; Lord Boston, Mrs. T. A. Compton, Ella Curtis, beautiful flowers; Mrs. J. Lewis, Mrs. White Popham, Madame G. Bruant, Mons. Chenon de Leché, Mrs. Maling Graut, Mrs. W. G. Palmer, and Lady Ellen Clark. A feature which pleased me very much was to see a large number of tops in 7-inch pots carrying fine flowers, and I took the names of two particular plants—namely, Mons. Chenon de Leché and Nellie Pockett, which were excellent.

Mr. Bird has been employed by the Midland Railway Company as a signalman for thirty years, and assures me that he never had an accident with the line, thanks to having a healthy hobby which keeps his head clear. Every success to him at the forthcoming shows.

BANKFIELD, BINGLEY.

THE veteran grower of the district, Mr. Midgley, is making a fair bid to win the open challenge cup of the Bradford Chrysanthemum Society for the third time. He has put his whole energy into his plants this year, and whoever beats him has to bring some superb flowers, for there are few growers who can equal Mr. Midgley in the culture of the Japanese. The display in the conservatory at Bankfield is very fine, and, as in former years, many admirers call daily to criticise the chances of the flowers. It is a matter of difficulty to select the best twenty-four varieties for the cup class from such an excellent collection. Amongst the best Japanese may be noted President Nonin, Mrs. W. G. Palmer, Marie Calvat, Lady Ellen Clark, Lady Byron, Melusine, one of Calvat's new ones; Purple Emperor, N.C.S. Jubilee, an excellent flower, with very broad florets; Chatsworth, a new Australian variety; Madame G. Bruant, Phoebus, Mrs. Weeks, very fine; Master H. Tucker, Mons. Hoste, a well built flower; Mrs. White Popham, Mutual Friend, Mons. Chenon de Leché, Queen of Portugal, one of the best (Mr. Midgley has not grown this variety before, and he finds the plant is a good grower for the locality, and the flower speaks for itself); Lady Northcote, Master T. Carrington, President Bevan, one of Calvat's latest, exceedingly fine; Modesto, Graphic, very fine; Eva Knowles, Mrs. J. Lewis, and Mrs. J. W. Barks, the sport from Edith Tabor.

The incurred varieties were represented by fine examples of Ernest Cannell, Dorothy Foster, Chrysanthemiste Bruant, resembling in colour the old variety Barbara, but much larger in size; Lady Isobel, Duchess of Fife, Mdlle. Lucie Faure are very promising, while Charles Curtis and Ma Perfection are sure to count well. Mrs. N. Molyneux, Rose Owen, Countess of Warwick are very good. Amongst the Anemone flowered varieties may be noted W. W. Astor, Mrs. Caterer, a beautiful shaped flower of great substance, perfect in every respect; Sir Walter Raleigh, Owen's Perfection and Robin Adair.

The season has been fairly favourable for the Chrysanthemum in and near Bradford, and there is every probability that some keen competition will take place at the forthcoming show on the 17th and 18th.—R. E.



RECENT WEATHER IN LONDON.—On Saturday, after a most pleasant morning, with a rising wind, we had several drenching showers, which fell at intervals throughout the evening. Since the time indicated the weather has been very pleasant, but decidedly too mild to be quite seasonable. On Wednesday morning it was foggy.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, November 21st, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Fruit Growing in South Wales" will be given at three o'clock by Mr. J. Basham, F.R.H.S.

GARDENING APPOINTMENTS.—Mr. W. Bean, late of Kirklees Park, Brighouse, under Mr. J. Hodgson, has been appointed gardener to J. W. Ashton, Esq., Bransby Lodge, Yorks. Mr. John Balmforth, late head gardener at Bishop's Court, Isle of Man, has been appointed in a similar capacity to J. Dewrance, Esq., Cranmore Place, Chislehurst, Kent.

BIRMINGHAM GARDENERS' ASSOCIATION.—At a well-attended meeting of the above Association, held on Monday, November 13th, under the presidency of Mr. W. B. Latham, Mr. Lewis Castle, manager of the Duke of Bedford's experimental fruit farm, Ridgmont, gave one of the most interesting lectures of the present session on hybridisation and selection. A prolonged discussion followed, at the conclusion of which Mr. Castle reviewed the principal points, and was accorded a hearty vote of thanks.—W. L. DEEDMAN, *Hon. Secretary*.

MONUMENT TO THE LATE MONS. J. LINDEN.—The memorial erected in the Leopold Park, Brussels, in honour of the late Mons. Jean Linden, was inaugurated on the 5th inst., in the presence of a large gathering of horticulturists and the members of the family. The monument consists of a bronze bust placed on a granite pedestal, which is decorated with Orchids. It is placed at the angle of the esplanade of the Museum of Natural History, and near the wall which encloses the establishment founded by this botanist and carried on by his son, Mr. Lucien Linden.

SOLANUM INTEGRIFOLIUM.—This is one of several species worthy of cultivation in pots for the sake of the ornamental fruit. It grows from 2 to 3 feet in height when planted out; when grown in pots, though, it rarely grows more than 1½ foot high. The fruit resembles, to a great extent, that of a thick-skinned, deeply-ribbed Tomato, but is not fleshy inside. The colour is red, and as the larger fruits are 2 inches across and fifteen to twenty, and sometimes more, are produced on plants in 6-inch pots, a pretty effect is made. They ripen about the end of September and keep in good condition until well on into the new year. In addition to the fruit the leaves are interesting. They are ovate, 6 to 8 inches long, with strong, upright spines half an inch long, thinly distributed along the principal veins on the upper surface. By sowing seeds in heat in March and growing the plant indoors until June, then plunging them outside until the fruit begins to colour, and by well feeding after the fruit has set little trouble will be found in its cultivation.—W. D.

AN IRISH GARDEN.—The gardens situated in suburbs of Bath-mines and close to the Dodder are very attractive, and at present shrubs and trees form the chief item. The grounds were originally laid out by Mr. Sheppard, but are now under the care of Mr. Cranmer, who spares no pains to beautify them. Along the walks magnificent specimens of the Weeping Ash and Elm are dotted, and their drooping foliage lends a decided charm. Amongst the shrubs are fine samples of Golden Privet, Cotoneaster, Escallonia macrantha, also a fine plant of Piptanthus nepalensis, raised by Mr. Cranmer from seed, with Clematis and Honeysuckles, Thorns, both double and single, Cupressus, Golden Hollies, Austrian Pine, Copper Beech, Turkey Oak, and Pyrus aria. In the centre of the grounds a dripping pool has been formed, and on the banks are the following plants:—Irises, Aubrietias, Roses in variety, Tropaeolums, Yuccas, and Polygonum cuspidatum. In the lake are Lilies in variety, and on the edges Cape Pond Weed and Cedrus atlantica abound. When the above grounds are endowed with flower beds, an alluring retreat will be formed that will be immensely appreciated in the time to come.—A. O'N.

— **AKEBIA QUINATA.**—In reference to Mr. A. McCulloch's interesting note and inquiry of this not too common climber on page 405, I may remark that the only examples I have seen or heard of in or around Birmingham were a few dozen growing up Scarlet Runner Bean-sticks in a small nursery at Edgbaston some four or five years ago, and were purchased at an auction sale of plants in the above city. They thrived and flowered the same season, but did not fruit. In the following year the whole were sold to a distant customer, somewhat to my disappointment, as I had been watching their progress with some little amount of interest. I noticed that the plants bore flowers of both sexes. The plant is a native of Japan and China, and Mr. B. Fortune found it growing in Chusan in hedges on the lower sides of hills. The small, dark, purplish brown flowers are sweetly fragrant, but not very showy. It is said that the fruit is used in Japan as an emollient medicine.—W. G.

— **NEW YORK GRAPES.**—What is known as the Grape belt of New York consists of about 30,000 acres, of which 25,000 acres are in nine towns on the borders of Chautauqua Lake in New York, and 5000 in two towns in Pennsylvania. An average yield is 7000 earloads in a season, 3000 baskets to a car, or 21,000,000 baskets. Of these nearly 95 per cent. are Concorda, and the average price last year was 7 cents per basket. It is estimated that there are 6000 pickers employed, and as a rule there are eight to ten women to one man, and they are said to pick more rapidly and pack them more neatly than the men, who are mostly kept doing the heavy work, as hauling, lifting, and driving. Many of the girls come from the inland districts of Pennsylvania, northern Ohio, southern New York, and even farther away. A good picker usually gets 80 to 90 cents a day, when she boards herself, or 3 dols. a week and board for working ten hours a day. Some come in parties and rent a house near by, one of them acting as cook and housekeeper. Others come alone, and hire their board.—("American Cultivator.")

— **SWINDON HORTICULTURAL SOCIETY.**—On Thursday a dinner was held in connection with the Swindon Horticultural Society, the members of the Committee and a few friends sitting down to a capital repast. The chair was taken by the President, Mr. W. Reynolds. After the repast and the customary toasts Mr. Marlow proposed the health of the Secretary, Mr. Yeo, and spoke in eulogistic terms of the services he had rendered the Society. The Chairman then handed to Mr. Yeo a barometer, in case, subscribed for by the members as some slight recognition of his services as Secretary, and said he was sure much of the success of the show had depended upon Mr. Yeo's efforts. The barometer bears the following inscription: "Presented to Mr. D. J. Yeo in recognition of his services as Honorary Secretary to the Swindon Horticultural Society, 1899." It was handed to Mr. Yeo amidst applause. Mr. Yeo, who was well received, said he scarcely knew how to thank them for their very kind present. His connection with the Society commenced in 1888, when they had no funds to commence with. They had a balance of £6 odd in hand at the end of 1898. This year they received from subscriptions £53 8s. 3d. This was increased by their garden party by £25, and they had a balance in hand of £28 15s. 8d. (Applause.) A very pleasant evening was spent.

— **FARMERS AND FRUIT CULTURE.**—Judging by a report of the proceedings furnished in the "Southampton Times" of the recent lecture on fruit growing by farmers, given at the Botley Farmers' Club (Hants) by Mr. Trinder, a gentleman of great intelligence, residing at Bishop's Waltham, nothing of a very practical nature seems to have been suggested or mentioned in the short discussion which followed. Mr. Trinder thought Apples and Plums might be well grown in Hampshire, and instanced the success which had attended on Strawberry culture near by. That success is doubtless very much due to excellence of soil and climate, and also because the growers of the fruits had made their culture a business speciality. Apple, Plum, or other hardy fruits may doubtless prove as successful as the Strawberries have been if the growers take to such culture as appreciably, and having ample practical knowledge. It is just because farmers are not experts in fruit culture, and cannot embark in it as appreciably, that there is little hope of success attending their efforts in that direction. One farmer deplored that in the list of eating varieties furnished by the lecturer as best to grow, his favourite, Ribston Pippin, was excluded. Were he an expert he would have understood the reason. Another said there might be something in proper pruning, but when he pruned his trees they did not fruit, neither did they when he did not prune them. Probably he pruned hard, promoting a crop of strong wood that was not fruitful, whereas it was rather root-pruning that was needed. Evidently for high class successful fruit culture we must look elsewhere than in the ranks of farmers.—A. D.

— **COVENT GARDEN SALESMEN AND THE MANSION HOUSE FUNDS.**—Nearly £1000 was subscribed by the wholesale and retail fruit, vegetable and flower merchants, at a meeting in Covent Garden Market in aid of the Mansion House War Funds.

— **IMPORTATION OF PLANTS AND SHRUBS.**—The importation of plants, shrubs, trees, and flower roots into the United Kingdom has been steadily increasing during the past twenty years. In 1879 the value of these imports was returned at £187,000, in 1884 it reached £312,000, in 1890 £308,000, whilst in 1898 it was £486,800. Of this last-named sum the imports from Holland accounted in 1898 for more than half—viz., £221,800; Belgium, France, and Germany each sent good, valued at between £40,000 and £50,000; the importations from Japan the United States, Colombia, and the Channel Islands were each returned as worth over £10,000; while Brazil and India sent shipments valued at £6300 and £4900 respectively. The figures given above do not include cut flowers, which were imported in 1898 to the value of £219,000, so that the combined value of plants and flowers imported into this country in the past year amounted to over £650,000. The countries to which plants and shrubs of British production exported are sent are not separately distinguished, but the total value of these exports in 1898 amounted to £35,500, whilst the re-exports of foreign plants amounted to £10,805.—("Journal of the Board of Agriculture.")

— **OCTOBER WEATHER AT DOWLAIS.**—Rainfall, 4.16 inches, which fell on eleven days; greatest fall 1.28 inch on the 1st. Temperatures: mean maximum 53°; highest reading 62° on the 22nd. Mean minimum, 36.741°; lowest reading 27° on the 30th; below freezing point on eleven days. The prevailing direction of the wind was N.E. for the first part of the month, and S.W. for the latter part. There were ten sunless days. A very favourable month for outdoor operations, as from the 5th to the 24th inclusive it was only wet on three occasions, with a rainfall of 0.40.—WM. MABBOTT.

— **OCTOBER WEATHER AT HODSOCK PRIORY, WORKSOP.**—Mean temperature, 47.0°. Maximum in the screen, 64.6° on the 17th; minimum in the screen, 26.4° on the 15th; minimum on the grass, 17.2° on the 15th. Number of frosts in the shade seven, on the grass twenty-three. Sunshine, 105 hours, or 33 per cent. of the possible duration; difference from average + 20. Rainfall, 2.70"; difference from average - 0.08. Rainy days, twelve; maximum fall, 1.22 on the 1st. Rainfall from January 1st, 18.73 inches; difference from average - 2.36. A fine month, with cold nights; not much rain after the 1st.—J. MALLENDER.

— **OCTOBER WEATHER AT BELVOIR CASTLE.**—The wind was in a southerly direction nineteen days. The total rainfall was 2.78 inches. This fell on thirteen days, and is 0.20 inch below the average for the month. The greatest daily fall was 0.98 inch on the 1st. Barometer (corrected and reduced): highest reading, 30.456 inches on the 21st at 9 A.M.; lowest, 29.162 inches on the 1st at 9 P.M. Thermometers: highest in the shade, 65° on the 12th; lowest, 28° on the 6th. Mean of daily maxima, 56.09°; mean of daily minima, 39.16°. Mean temperature of the month, 47.62°. Lowest on the grass, 26° on the 15th; highest in the sun, 109° on the 18th. Mean temperature of the earth at 3 feet, 50.38°. Total sunshine, 137 hours 15 minutes, which is fifty hours above the average for the month. There were five sunless days.—W. H. DIVERS.

METHEOLOGICAL OBSERVATIONS AT OHSWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Temperature of the Soil.			
		At 9 A.M.		Day.	Night.	At 9 A.M.			Lowest Temperature on Grass.
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
1899.									
November.									
Sunday .. 5	S.W.	deg. 55.1	deg. 53.8	deg. 61.2	deg. 54.0	ins. 1.25	deg. 54.1	deg. 52.7	deg. 52.5
Monday .. 6	E.N.E.	deg. 49.5	deg. 48.4	deg. 52.5	deg. 48.8	0.02	deg. 53.8	deg. 52.2	deg. 47.6
Tuesday .. 7	S.S.W.	deg. 50.2	deg. 48.8	deg. 55.7	deg. 35.3	0.72	deg. 50.2	deg. 53.1	deg. 28.9
Wednesday .. 8	S.W.	deg. 50.8	deg. 48.1	deg. 55.1	deg. 49.4	—	deg. 50.9	deg. 52.4	deg. 45.1
Thursday .. 9	W.S.W.	deg. 51.9	deg. 46.8	deg. 55.9	deg. 46.4	0.44	deg. 50.1	deg. 52.1	deg. 39.0
Friday .. 10	S.S.W.	deg. 57.0	deg. 54.2	deg. 59.4	deg. 45.2	—	deg. 50.1	deg. 51.8	deg. 37.9
Saturday .. 11	S.S.W.	deg. 50.8	deg. 46.1	deg. 55.9	deg. 42.3	—	deg. 49.6	deg. 51.8	deg. 31.7
MEANS ..		52.2	49.5	56.0	45.9	Total 2.08	51.2	52.4	40.4

The first part of the week was mild and wet, the latter part being remarkable for strong south-westerly gales.



SALE OF ORCHIDS AT MANCHESTER.

ON November 2nd and 3rd Messrs. Artingtall and Hind offered by public auction at Princes Street, Manchester, the collection of Orchids formed by the late H. Greenwood, Esq., Highfield, Haalingden. The sale was well attended by both trade and private buyers from nearly all parts of the kingdom, and prices realised were good throughout, the total amounting to a little over £1400. A few of the prices of the chief plants may interest readers:—*Cypripedium callosum* Sanders with five growths 75 guineas, the original plant of *Laelio-Cattleya* H. Greenwood 34 guineas, and a small piece of the same variety £16 10s. *Laelio-Cattleya tyntesfieldense* 50 guineas, *Laelio-Cattleya Dominiana* var. *Frances Mary* 19 guineas, *L.-C. Mendeli* × *Digbyana* 20 guineas, *L.-C. Canhamiana langleyense* 15 guineas, while *Cypripedium insigne* Sanders fetched 31 guineas, *Cypripedium insigne* Sanderianum 27, 25, and 16 guineas respectively, *C. Lawrenceanum* Hyeum 21 guineas, *C. Goweri magnifica* 18½ guineas, *C. Nandi* 14 guineas, *C. Antigone* 8 guineas, *C. Charles Rickman* 9½ guineas. Two fine plants of Crawshaw's variety of *Laelio-anceps* Amesiae were sold for 24 and 17 guineas each, *Cattleya labiata* Sanders 24 guineas. The *Dendrobiums*, as a rule, were small, but the prices realised were good—namely, *D. Ainsworthi intertextum* 19 guineas, *D. nobile Murrhinnianum* 6½ and 7½ guineas, *D. micans* 5½ and 6 guineas, *D. Schneiderianum* £14 10s., *D. Hebe* 5 guineas, *D. Luna* 7½ guineas, *D. Sybil* 6 guineas, *D. Wiganæ* £7, *D. splendidissimum illustre* £14 10s, Greenwood's variety of *nobile giganteum* £7 5s., and a fine plant of *D. Clio* £19. *Odontoglossum Hunnewellianum maximum*, two plants £30 and £14 respectively. *O. Andersonianum* Danehurst variety £10, *O. Humeanum* £7, and *O. aspersum fulgens* £8 10s. The collection also comprised many seedlings of the different families, and for their possession competition was exceedingly keen. Considering the size of the collection, under 3000 plants, the majority being small, the results must be considered satisfactory. The prices and the attendance of so many interested buyers tend to the opinion that Orchid culture is increasing in popularity.

CATTLEYA MANTINI NOBILIOR.

HIGHLY coloured Orchids are doubly appreciated at this rather dull season of the year, and the above must be considered one of the best. It was raised on the Continent by Mons. Mantin, and also in this country by Messrs. J. Veitch & Sons from *C. Bowringiana*, crossed with *Cattleya aurea*. It will succeed under the same conditions as either of its parents, and when well grown is a most delightful object. I find it much better to give the plants brought over from our continental raisers a little more heat for the first season, until they become thoroughly acclimatised, as they appear to have been grown in more heat than we give them, and, if they do not get it, they are apt to lose their roots and deteriorate.

CYPRIPEDIUM MILO.

Cypripedium insigne and its varieties have participated in the parentage of some of the most charming hybrid *Cypripediums* in cultivation, and, in my opinion, the better varieties of *C. Milo* may be equalled, but not excelled, by any of them. The parentage of this beautiful flower is *C. insigne* Chantini × *C. oenanthum superbum*, and it belongs to the same class as *C. Pollettianum* Euryades, and several others. It is of free growth, grown in the compost recommended for the green-leaved section. It flowers at the present season, lasts for a considerable time in bloom, and when the plants become large they are rarely without a flower. This plant can be recommended to any lover of *Cypripediums* as one that should be added to every collection. There is great variety in the different seedlings raised, some being much better than others. *C. Milo* was raised by Messrs. J. Veitch & Sons, and there are several varieties which have received the hall mark, so to speak, of the Royal Horticultural Society.—J. BARKER, *Hessle*.

SHOWS.

BIRKENHEAD.—NOVEMBER 7TH AND 8TH.

THE Committee of the Birkenhead Show was fortunate in having the presence of the Mayor and other influential gentlemen at the annual show on Tuesday and Wednesday last. The Mayor (Alderman J. T. Thompson) spoke in no uncertain way on the lack of support such an excellent society was receiving. Alderman Thompson also spoke of the importance of having experienced men as judges. The society had been in existence for some years, and in his judgment it had not yet taken its

proper position in the town, because he thought there ought to be in Birkenhead a show second to none in the kingdom. The Committee did good work in admitting free the inmates of the Albert Industrial Schools, Christ Church Homes, Tranmere Workhouse, and Birkenhead Rescue Home.

Although the entries were not so large, the quality was exceptionally good, and this applies to the large class of twenty-four Japanese, eighteen distinct varieties. Here Mr. Geo. Haigh, gardener to W. H. Tate, Esq., Highfield, Woodton, won in fine style, his blooms being solid, fresh, and of good colour. The silver cup was won outright, and it is pleasing to note that the givers of the special prizes, viz., C. Gatehouse, Esq., and A. W. Walker, Esq., believe in one-year wins. The varieties were Vivian Morel (2), Pride of Exmouth (2), Mrs. G. W. Palmer, Mrs. White Popham (2), Australia (2), Ella Curtis, Lady Hanham, Madame Gustave Henri (2), Eva Knowles, Lady Ellen Clark, Mr. C. H. Payne, Secrétaire Fierens, Modesto, Mons. Hoste (2), Phœbus, Mrs. J. Lewis, Chatsworth, Charles Davis, and James Bideneope. Mr. E. Ellis, *Hessle*, came a good second, and Mr. J. H. Ismay third. For twelve incurved, Mr. Ellis turned the tables on Mr. Haigh, both having most commendable stands. For twelve Japanese, another well tried exhibitor, Mr. J. Williams, gardener to C. J. Procter, Esq., Boscobel Nocturnum, took a lead over Mr. Ellis with an almost faultless stand.

In the local classes the competition was fair, Mr. E. Broadey, gardener to W. H. Jones, Esq., Hooton, going strong for twelve Japanese and twelve incurved, Mr. Williams and Mr. Neish following. Smaller classes were moderate. Mr. Williams' skill was apparent in the vases of *Chrysanthemums* and a pretty bouquet. Mr. Haines, gardener to E. K. Laird, Esq., had a most pleasing group of *Chr. santhemums*, each variety being correctly named, yet not unsightly.

The fruit classes were well represented. Mr. D. Wilson won with Grapes, and Mr. Ferguson, gardener to Mrs. Patterson, Rock Ferry, for a collection of fruit. Mr. Riley was to the fore as Secretary, and he was well supported by the excellent Committee.

COVENTRY.—NOVEMBER 7TH AND 8TH.

THE Mayor of Coventry opened the fifth annual show of this Society on the above dates, and he was ably supported by several influential citizens. The Committee took the opportunity to present a handsome shower-bouquet to the Mayoress, which was suitably acknowledged by the Mayor. The Corn Exchange, where the show was held, is admirably adapted for such an exhibition, and it is to be hoped that a greater measure of support will be accorded to the Society than has been shown during the last year or two.

The number of entries was lower than last year, but the general excellence of the exhibits was, on the whole, well maintained. For groups of *Chrysanthemums* covering a space of 50 feet Mr. J. Morris, gardener to Sir R. Moon, Bart., was decidedly first. Mr. E. Wood, an under gardener in the neighbourhood of Coventry, who grew his plants himself in his spare time, was a creditable second. In the class for groups 40 feet space Mr. W. Howe, gardener to J. K. Starkey, Esq., took the lead, followed by Mr. G. Finch, gardener to J. E. Banks, Esq. Two meritorious miscellaneous groups were staged, first Mr. W. Finch, nurseryman, Coventry, second Mr. J. Morris.

For twenty-four Japanese Mr. H. Blakeway, gardener to P. A. Muntz, Esq., Dunsmore, Rugby, was easily first. His best blooms were Ethel Addison, Phœbus, Vivian Morel, Mrs. Beisant, Mrs. Lewis, Lady Ridgway, Mrs. Palmer, Lady Hanham, Edith Tabor, Mrs. W. Mease, Madame Hoste, and Madame P. Rivoire. Second, Mr. J. Blake, gardener to W. H. Herbert, Esq., The Grange, Coventry. For twenty-four incurved, Mr. A. Chandler, gardener to Arthur James, Esq., was first, and considering the lateness of the Queen family he had a grand exhibit. His best flowers were Ernest Cannell, Topaze Orientale, Baron Hirsch, C. H. Curtis, Lady Isobel, Jeanne d'Arc, and Mrs. N. Molyneux. Mr. J. Morris was second.

The non-competitive exhibits were a special feature of the show. Messrs. B. S. Williams & Sons staged a grand collection of decorative plants, amongst which *Begonia Gloire de Lorraine* was particularly noted. Mr. H. T. Martin, gardener to Lord Leigh, had a table 30 feet long of fruit principally Apples, with heavy bunches of Black Alicante Grapes and brightly coloured *Crotons*, suitable for table decoration, intermixed. This exhibit was the centre of attraction, the high colour of the Apples being blended most harmoniously with the foliage utilised. Mr. Martin also staged an excellent stand of cut *Chrysanthemums* in vases. Mr. J. K. Starkey sent a fine group of miscellaneous plants, and Sir R. Moon, Bart., a collection of fruit, consisting chiefly of Apples and Pears. Messrs. C. Kimberley & Son had a stand of wreaths and crosses; Mr. F. Curtis horticultural sundries, and Mr. W. Finch made a fine show of massive wreaths, anchors, crosses, and baskets of cut flowers.

ISLE OF WIGHT.—NOVEMBER 7TH AND 8TH.

THE fourth annual show of the Undercliffe *Chrysanthemum* Society was held at Ventnor on Tuesday and Wednesday last. The entries were not so numerous as on previous occasions, nor was the competition so keen; but the quality of exhibits far exceeded expectations. For groups Mr. W. Gee, gardener to Mr. H. Cloots, carried off the premier award with a well-arranged group of *Chrysanthemums* and foliage plants, containing some very fine blooms. Mr. Martin Silsbury, of Shanklin, secured first honours for twenty-four Japanese with some fine blooms. For a specimen bloom Mr. F. Woods, gardener to Mr. O. Mortimer, Steep-hill Castle, was an easy first with Australian Gold. For specimen plants Mr. W. W. Sheath, gardener to Miss Mitchell, Macrocarpa, secured

first position for four plants, distinct varieties, and for specimen plant. For twelve incurved blooms Mr. S. Prismall, gardener to the Hon. Mrs. Cecil, of Ryde, was first with good blooms. Amongst other successful exhibitors were Messrs. H. Drover & Son; W. Russell, gardener to Mr. Combe, Bonchurch; F. Attrill, gardener to Miss Cass, Ventnor; R. Jolliffe, D. Day, S. Samuel, A. Richards, gardener to Mr. Jessop, Bonchurch; and W. Kingwell, of Shanklin. The I.W. Horticultural Improvement Association certificates were won by Mr. W. Gee for a group of Chrysanthemums and foliage plants; Mr. W. Kingwell for Japanese blooms; and Messrs. H. Drover & Son for a new variety of Begonia. Considering the inclemency of the weather the show was a great success, and reflects much credit on the energy of Mr. Wavell Knight, the esteemed Honorary Secretary, and a hard-working Committee.

CARDIFF.—NOVEMBER 8TH AND 9TH.

ON Wednesday and Thursday the Park Hall, Cardiff, was the scene of one of the most successful exhibitions ever held by the Cardiff and

bunches of black and white Grapes. Between the ends of the table and the centre stood four large vases, two on either side, two of which were filled with Chrysanthemums, Bamboo shoots, Berberis, and Cyperus; the others were arranged with Anthuriums, Physalis, Abutilon, Cocos leaves, Ampelopsis, and Asparagus. Two well coloured Crotons at both ends of the table added much to the effect. No less than ten Pine Apples were made use of in the Royal exhibit, as well as several baskets of Grapes. About 150 dishes of Apples and Pears were upon the table, and interspersed amongst them small glasses, filled with Cattleyas, Violets, and Maidenhair. An edging of autumn leaves and berries, consisting chiefly of Berberis in variety, bordered this striking exhibit. For the photograph from which the illustration (fig. 79) was prepared we are indebted to Mr. John Lawrence, 3, St. John's Square, Cardiff.

In the classes for out blooms, on the present occasion the entries were far more numerous than had been the case in previous seasons, especially for Japanese. There were many excellent blooms of these latter, although the Judges remarked a want of freshness in some stands, and also a slight



Photo by Mr. John Lawrence,

St. John's Square, Cardiff.

FIG. 79.—HER MAJESTY THE QUEEN'S EXHIBIT AT CARDIFF SHOW.

District Chrysanthemum Society. Although essentially an exhibition of Chrysanthemums, fruit, both hardy and indoor, as well as various stove and greenhouse plants and vegetables, were well represented. The Mayor of Cardiff (Sir Thomas Morell), who opened the Show, in the course of his address remarked upon the continued increase in beauty and form of the queen of autumn flowers, as evidenced by the many fine specimens exposed there.

A special feature of the show, that attracted a considerable amount of attention, was a large decorative table of flowers and fruit sent by her Majesty the Queen from the Royal Gardens, Windsor, under the superintendence of Mr. Owen Thomas. This display, which was not for competition, occupied the centre of the hall, and was surmounted by a handsome canopy draped in old gold and green, bearing the Royal Arms. The Royal table, measuring 24 feet long by 6 feet wide, was very effectively arranged; the bold centrepiece, broadly conical in shape, had on the summit a fine specimen of Croton Prince of Wales. At each corner and along the top and bottom of the cone were lines of the small and beautifully coloured Fairy Apples, whilst upon the central portions were placed

coarseness in several flowers. The incurved, generally speaking, were rather small, though many fine individual blooms were noticeable. The competition in the groups was not keen; nevertheless those staged were very creditable.

Mr. William Treseder, Cardiff, took first prize for a group of Chrysanthemums arranged for effect with foliage plants. The Crotons, Dracaenas, Acalyphas, Ferns, and Palms made a pleasing and effective base to a fine centre of Chrysanthemums. An exceedingly pretty group of miscellaneous plants was staged by G. Rutherford, Esq. His arrangement, to which the premier prize was awarded, included Begonia Gloire de Lorraine, Bouvardias, Phyllanthus, Abutilons, Cattleyas, and Oncidium. Dr. Lynn Thomas, Penylan, came second with a pretty group of Vandas, Lady's Slippers, Zonal Pelargoniums, and Ferns. In the class for a group of Chrysanthemums, premier honours fell to J. P. Hacquoil, Esq., Rumney, for a well arranged exhibit.

Competition was keen in the open class for twenty-four Japs, distinct. Mr. Geo. W. Drake, Cardiff, was first. A silver cup was attached to this prize; Madame Carnot, Le Grand Dragon, Nellie Pickett, and President

Nomin, were especially fine. G. Rutherford, Esq., Cardiff, was second, and Mr. W. Adams, Southsea, third. This latter exhibitor took first for twenty-four incurved, distinct. His best were Duchess of Fife, R. O. Kingston, and Brookleigh Gem. The second prize fell to V. Stuckey, Esq., Langport; Jeanne d'Aro and Madame Ferlat, were good. For twelve Japa, distinct, G. Rutherford, Esq., was first, and Mr. Ralph Crossling, Penarth, second. Madame Henry and Mrs. Mease were excellent in the former's collection, and M. Panekoucke and Mrs. G. Palmer in that of the latter.

The third prize stand of twenty-four Japanese, in not less than eighteen varieties, contained the best bloom in the show—one of Mrs. Mease—to which a certificate of merit was awarded. This was from G. Rutherford, Esq. The first prize in this class, which also carried with it the silver medal of the N.C.S., was awarded to R. A. Bowring, Esq., Cardiff. His best blooms included Madame Carnot, Graphic, and G. J. Warren. Mr. F. L. Davies, Caerleon, came second. For twelve Japa, not less than six varieties, A. T. Stephens, Esq., Penarth, gained first honours, and Sir Thomas Morell had second place. Phœbus and Australie were the most noticeable blooms here. For twelve incurved, not less than six varieties, S. A. Brain, Esq., Penarth, was placed first, R. Parsons, Esq., Cardiff, second.

The first prize for six white Japa fell to F. Brimaveal, Esq., Cardiff, for Madame Carnot. Mrs. J. Lewis gained second honours for A. T. C. Stephen, Esq. For six Japa, any variety except white, the latter exhibitor was first and Mr. R. A. Bowring second. The classes for bunches of singles brought forward several charming arrangements, and served to show how useful and well suited to vase decoration these really are. The entries for specimen bush plants, both of Japanese and incurved, were numerous. These and also standards were well represented. A beautiful plant of Miss Rose was deservedly awarded first place for a trained specimen of a single flowered variety.

Several handsome Chrysanthemum bouquets were exhibited, one composed of yellow and deep crimson blooms gained the first prize, for Mr. A. Price, Cardiff. Mr. Ralph Crossling was a very close second with a tasteful arrangement in yellow. The bridal bouquets were also very charming. Mr. W. Treseder took first place, Mr. A. Price followed as second. *Odontoglossum crispum*, *Eucharis*, *Niphetos Rose*, and *Asparagus* were chiefly made use of by the former. For a lady's spray and gentleman's buttonhole, the first prize was given to an exhibit which, however well put together, was certainly far too large for practical use. Many handsome wreaths and crosses were shown, both of Chrysanthemums and mixed flowers. Table plants were well shown, also *Primulas*, *Hyacinths* (Roman), and *Ferns*. In the cottagers' classes very creditable blooms were noticeable in the various classes for Japanese and incurved.

Dessert Apples, though finely coloured, were small, and not really so good comparatively, as were the culinary ones. Amongst the latter, Peasgood's, King of Tompkin's County, and Warner's King were fine. General Lee, Dynas Powis, had the best. The same exhibitor also gained first honours for a collection of dessert Apples. J. H. Mullins, Esq., was first for a collection of Pears. One dish of Thompson's was very good. Grapes were well shown, J. C. Hanbury, Esq., obtaining first for black Grapes with bunches of Alicante, and Lord Aberdare first for white, with Trebbiano. General Lee was successful in gaining first for collection of vegetables. These latter, though not extensively shown, were, on the whole, clean and well grown.

A smaller adjoining hall had to be requisitioned, as the Park Hall was incapable of accommodating all the exhibits. In the former Messrs. Clibran had some fine Chrysanthemums, *Celosias*, *Salvias*, and also Apples (silver medal). Mr. W. Treseder showed *Cactus Dahlias* and herbaceous plants (silver-gilt medal). Other exhibitors were Mr. Wells of Earlswood, and Mr. Ralph Crossling, Penarth, of Chrysanthemums; Mr. Copp, Cardiff, of pottery; and Mr. Ellis, of table plants. A gold medal was given to Miss Hodgkinson of Manchester for an unique display of skeletonised leaves. Mr. Forbes of Hawick gained a certificate of merit for a new *Begonia Caledonia*, a white sport from *Gloire de Lorraine*, and last, but by no means least, the collection of dried plants of the neighbourhood, attractively mounted by Mr. J. J. Graham, which gained for him a silver medal.

BIRMINGHAM.—NOVEMBER 7TH, 8TH, AND 9TH.

THERE was a consensus of opinion amongst the *habités* of the above Society's great exhibitions, that this, the thirty-ninth, was the largest yet held, while there was no falling off in the quality of the exhibits, either in the Chrysanthemums, fruits, or vegetables. There were, as usual, several fine examples of Grapes, Apples, and Pears; also a superb show of vegetables. It is also worthy of particular remark that, in addition to the usual prizes, extra prizes, both in money and in kind, were offered for baskets of Grapes and bunches of Grapes, open to all comers, to become the property of the Committee, for distribution in the hospitals of Birmingham, and happily there was a pretty liberal response to the invitation.

That successful old exhibitor, Mr. Oliver Brasier, gardener to Lady Martineau, Edgbaston, won the first prize in the classes for nine and six large-flowered Chrysanthemums (Japanese excluded), and for three Japanese, with very fine examples; the second prize going to Mr. J. Maldrem, gardener to George Cadbury, Esq., Northfield; and the third to Mr. A. Cryer, gardener to J. A. Kendrick, Esq., Edgbaston, both with good specimens. For six Japanese, dissimilar, Mr. Brasier led the way; with Mr. W. Otway, gardener to A. Albright, Esq., Edgbaston, second; and Mr. C. T. Sheppard, gardener to Mrs. Simpson, Edgbaston, the third winner. For three Pompons Mr. Maldrem was accorded the

first, and Mr. Cryer the second prize. For one large-flowering specimen Messrs. Maldrem, Brasier, and Cryer were the respective winners. For one Japanese Mr. E. Burden, King's Heath, was placed first; Mr. Maldrem second; and Mr. Cryer third. For three single flowering varieties Mr. Maldrem was first, Mr. Cryer second, and Mr. Otway third.

The handsome prize of £15 for the best group of Chrysanthemum plants, arranged in a space 30 feet wide at the back and 12 feet deep, was most worthily won by Mr. Macdonald, gardener to G. H. Kenrick, Esq., Whetstone, Edgbaston. The second honours fall to Mr. O. Brasier, the third position to Mr. A. Cryer, the fourth to Mr. T. Thomson, gardener to Mrs. Whitfield, Moseley; the fifth to Mr. G. Fawdry, gardener to W. Smith, Esq., Moseley; and the sixth prize to Mr. E. Burden. For a group of Chrysanthemums, arranged for effect in a space 12 feet wide at the back and 8 feet deep, the first prize of £4 and a sterling silver challenge cup were won by Mr. Maldrem. Mr. E. J. Muston, gardener to A. F. Bird, Esq., Moseley, was second; Mr. W. Otway third; and Mr. Lewis Fewkes, gardener to T. Clayton, Esq., Castle Bromwich, fourth.

The cut bloom classes were, as usual, well contested, and the champion in several of the classes was that redoubtable exhibitor Mr. C. Crooks, gardener to the Dowager Lady Hindlip, Droitwich. For twenty-four incurved, distinct, Mr. Crooks was to the fore with a fine stand, comprising Duchess of Fife, very fine; Mrs. Dorothy Foster, good; C. H. Curtis, excellent; Mr. W. C. Egan, Bonnie Dundee, grand; Topaze Orientale, Chrysanthemiste Bruant, Mr. J. Agate, fine; Globe d'Or, Brookleigh Gem, The Egyptian, Madame Ferlat, Lucy Kendall, Jeanne d'Aro, Annie Hill, Hanwell Glory, Violet Tomlin, John Lambert, Mr. R. C. Kingston, Golden Empress, Mrs. Heale, Robert Petfield, and Miss Haggis. The second prize was accorded to Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby; the third to Mr. F. G. Foster, Havant; the fourth to S. Loder, Esq., Weedon; and the fifth to Mr. R. Jones, gardener to C. A. Smith Ryland, Esq., Barford Hill, Warwick.

For twenty-four Japanese, distinct, the lead was taken by Mr. Goodacre with *Australie*, G. Palmer, *Gustave Henry*, *Phœbus*, *Eva Knowles*, fine; *Mme. L. Remy*, Harman Payne, fine; Mrs. Mease, fine and deep; *Elthorne Beauty*, G. Bruant, *Secretary Fierens*, Lady Byron, Madame Panekoucke, Mrs. G. Lewis, *Edith Tabor*, Madame Carnot, fine; Charles Davis, very fine; Mrs. White Popham, Lady Hanham, grand; *Mutual Friend*, Mrs. Barks, Lord Ludlow, and M. Chenon de Leché. Mr. C. Crooks was a good second; Mr. A. Chandler, gardener to A. James, Esq., Rugby, third; Mr. W. Pearce, gardener to S. Loder, Esq., Weedon, fourth; Mr. F. Vallis fifth, and Mr. T. G. Foster sixth. For eighteen incurved, distinct, Mr. C. Crooks was first for a bright and solid exhibit; the second prize falling to Mr. J. Parkes, gardener to W. Roberts, Esq., Pedmore; and the third to Mr. F. G. Foster, Havant. For eighteen Japanese, distinct, Mr. C. Crooks was again to the front with grand examples. The second prize was secured by Mr. A. Chandler, Rugby, and the third by Mr. T. Sceaney. For twelve incurved, distinct, Mr. C. Crooks was first, Mr. A. Chandler second, and Mr. R. Jones third. For twelve blooms of incurved Japanese, distinct, Mr. F. Vallis, Chippenham, took the lead with a fine stand; Mr. R. Jones second, and Mr. G. Neal, gardener to P. Southby, Esq., Bampton, the third positions.

An interesting and attractive class was that for six blooms of any one variety of white Japanese, and Mr. C. Crooks was accorded the first prize for a splendid of Madame Carnot, while Mr. W. H. Westbury, gardener to C. Howell, Esq., Edgbaston, was placed second with a superb complement of Mrs. H. Weeks, and Mr. G. Neal the third position with a very good set of Western King. For twelve blooms of Japanese on long stems, arranged with any kind of foliage, Mr. R. Bullock, gardener to W. Pigott, Esq., Moseley, was placed first, Mr. C. Batchelor second, and Mr. J. Harrison, gardener to J. Morris, Esq., third. There were also several minor classes very well represented, but for which space cannot be found, excepting that for the best bloom of R. Hooper Pearson, Mr. R. Jones, Warwick, took Mr. H. J. Jones', Ryecroft Nursery, prize of £1.

There were only two "displays of floral arrangements," and Messrs. John Pope & Sons, Birmingham, were awarded the coveted prize for a charming and artistic arranging of bouquets, wreaths, crosses, harps, and sprays, backed with elegant drapery and large mirrors. Mr. John Crook, Broad Street, Birmingham, secured the second prize for also a beautiful arrangement. In the class for hand bouquets for nurserymen or florists only, Messrs. Perkins & Sons, Coventry, were awarded the first prize, Messrs. Pope & Son second. For an *epergne* of Orchids there was an interesting contest for the substantial prizes, and Mr. MacDonald secured the premier award, Mr. Holyoak the second, and Mr. W. Rudge the third. Dinner table decorations of Chrysanthemums and Ferns or other foliage formed a feature, and extended across the hall. The first prize went to Mr. J. A. Tidmus, the second to Miss Johnston, Tamworth, the third to Mr. Crook, and the fourth to Mr. Holyoak, Ashby-de-la-Zouch.

Gold medals were awarded to the Right Hon. Joseph Chamberlain for a miscellaneous group of plants, and in which Mr. Deacon introduced a profusion of *Begonia Gloire de Lorraine*; Messrs. Laing & Sons, London, for a very fine display of Apples, Pears, and plants; Mr. J. Basham, Bassaleg, for a very fine collection of Apples; to Messrs. R. Smith and Co., Worcester, for a collection of fruits and shrubs; and to Mr. W. J. Godfrey, Exmouth, for a superb assortment of Chrysanthemums. Silver medals were awarded to Messrs. Webb & Sons, Wordley, for vegetables and plants; to Messrs. Thomson & Co., Sparkhill, for plants; to Mr. J. Smith, Yardley, for a grand collection of Gourds; to Messrs. Clibran and Son, Altrineham, for *Celosias* and *Salvia splendens grandiflora*; to Messrs. Pewtress Bros., Hereford, for a collection of Apples and Pears;

to Mr. J. Watkins, Hereford, for Apples; to Mr. F. A. Walters, Handsworth Wood, for a fine collection of Cacti; to Messrs. Yates & Sons, Birmingham, for a collection of vegetables; to Messrs. Hewitt & Co., Solihull, for shrubs; to Messrs. John Pope and Sons for shrubs; to Messrs. Baylis & Co., Birmingham, for rustic seats and arbours; and to Messrs. Wright & Holmes, Birmingham, for horticultural buildings. Bronze medals were awarded to Mr. W. B. Child, Acocks Green, for herbaceous cut flowers and shrubs; to Mr. W. Edwards, Nottingham, for table decorative wares; and to Mr. George Boyes, Leicester, for a fine collection of Carnation plants and flowers. Messrs. W. Wells & Co., Earlswood, Redhill, made an attractive display of their seedling and other Chrysanthemums.

CHESTERFIELD.—NOVEMBER 8TH.

In the Stephenson Memorial Hall the annual autumn exhibition was held, and it was quite a success. Mr. Parkes, the Hon. Secretary, having all the arrangements well in hand.

Seldom are groups of large flowering Chrysanthemums, as well as those formed with undisbudded plants, so well represented as here. In the former section the plants were dwarf, well clothed with foliage, and carried large exhibition blooms. Mr. E. Moses, gardener to L. Britt, Esq., Beny Hill, Chesterfield, secured the first place in the former class. Mr. Bloxham, gardener to R. F. Mills, Esq., Tipton Grove, Chesterfield, was second, and Mr. H. Wood, gardener to T. H. Barnes, Esq., West House, Chesterfield, third. In the undisbudded plant class, Mr. Nelson, gardener to A. Baines, Esq., Ashgate Lodge, Chesterfield, was an easy first, and Mr. E. Money, second.

Cut blooms formed an interesting part of the show. In the Japanese section Mr. J. Evans, gardener to Sir H. Wilmot, Chadderton, Derby, secured the first place for twenty-four in not less than eighteen varieties, with good blooms. Mr. H. Metcalf, gardener to Horsley Woodhouse, Esq., Derby, was second. For twelve Japanese, Mr. Nelson secured the coveted award. Mr. Bloxham was second, and Mr. Parkes, gardener to J. M. Clayton, Esq., Whittington Hall, Chesterfield, third.

Mr. Parkes secured the verdict in the class for four varieties arranged in vases. Mr. H. Wood, gardener to J. H. Barnes, Esq., West House, Chesterfield, was second. For three vases Mr. Randall won. Mr. Bloxham had the best basket of Chrysanthemums. Incurred varieties were staged in such a manner as to leave little to be desired. For twelve Mr. Evans won premier award with really fine examples of C. Curtis, Lady Isobel, Hanwell Glory, and Miss V. Foster. Mr. Metcalf second.

ASCOT.—NOVEMBER 8TH AND 9TH.

THE above Society held its annual show in the Grand Stand in fine weather. The show was a great improvement on last year, though several of the local classes were below the standard, except those for vegetables and fruit. Mr. Gordon Shackle made an excellent secretary.

For groups of Chrysanthemums with foliage to give effect the adjudication was open to question, as the second prize was generally considered to be the best. H. P. Leschallas, Esq. (gardener, Mr. W. L. Farmer), The Highams, Bagshot, was awarded first prize; Mr. Lane, gardener to Miss Smith, King's Ride, Ascot, second; Mr. J. Cowie, gardener to Sir Thomas Lucas, Bart., Heatherside, Ascot, third. Three faced the Judges for a group of Chrysanthemums in pots; first, Mr. White, gardener to Marchioness of Conyngham, The Mount, Ascot; second, Mr. Lane; third, Mr. Hawthorn, gardener to Messrs. Blair and Shackle, St. George's, Ascot.

In the class for twenty-four Japs, distinct, there were six entries. First, Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch, Reigate, with heavy blooms, but like all the cut blooms slightly deficient of colour. The varieties were Australia, Mrs. J. Lewis, Le Grand Dragon, Mrs. C. H. Payne, Madame P. Rivoire, Lord Ludlow, C. B. Heywood, Madame Rosaine, Mrs. Mease, Lady Ridgway, Mrs. W. Popham, Nellie Pockett, Mrs. G. W. Palmer, Lady Byron, Marie Calvat, G. J. Warren, Mons. Chenon de Leché, Madame L. Remy, Oceana, N.C.S. Jubilee, Madame Carnot, Edith Tabor, R. Powell, and Pride of Exmouth. Second, Mr. Wilson, gardener to R. C. Christie, Esq., Rebsden, Windlesham; third, Mr. F. G. Foster, Brookhampton Nursery, Havant; fourth, Mr. W. L. Farmer.

For twenty-four incurved, distinct, Mr. W. Wilson was first with fairly deep flowers of Duchess of Fife (champion incurved), Lord Rosebery, E. Cannell, good; Ma Perfection, Topaze Orientale, R. Petfield, Madame Ferlat, C. H. Curtis, Queen of England, very small; Globe d'Or, Empress of India, A. Salter, Golden Empress of India, Miss V. Foster, Mrs. R. C. Kingston, Mons. Desblanc, Prince of Wales, George Haigh, D. B. Crane, and Mr. G. Edie. Second Mr. C. J. Salter; third, Mr. W. L. Farmer, and fourth, Mr. F. G. Foster. For eighteen Japanese, distinct, confined to the district, the only exhibitor, Mr. Farmer, was awarded first with fresh but not heavy flowers. Twelve Japs, Mr. Lane was first with grand flowers; second Mr. White; third Mr. Wilson. Mr. W. Perry, gardener to Lewis Schotte, Esq., Penny Hill, Bagshot, was awarded four first prizes for much the largest and best coloured flowers in the show—namely, six Jap white, Madame Carnot (premier bloom), six Japs yellow, Australian Gold, six Japs distinct, and six incurved, one variety, C. H. Curtis.

BATH.—NOVEMBER 8TH AND 9TH.

AFTER a lapse of five years a Chrysanthemum show has once more been held in Bath, and it is to be hoped sufficient encouragement will have been received to warrant the Floral Fête and Band Committee in making it a fixture in their programme. Unfortunately the dates selected were also those of Bristol and Cardiff societies, this considerably

reducing the number of entries, while the weather was most unpropitious. Trained plants of Chrysanthemums were shown in moderately large numbers, but all, with the exception of a magnificent specimen of Japanese, Madame Carnot, which gained Mr. J. Southward, gardener to W. J. Brown, Esq., Box, a first prize and silver medal of the National Chrysanthemum Society, were somewhat mediocre. The first prize for a group of Chrysanthemums and other plants arranged for effect was won by Mr. T. J. Tate, gardener to Mrs. Stothert, second Messrs. E. Cole & Sons. In these classes the competition was highly satisfactory. The best group of miscellaneous plants was arranged by Mr. H. Smith, gardener to W. Eaton Young, Esq.; second Messrs. E. S. Cole and Sons.

It was in the cut bloom classes where the entries were not so numerous as desirable, but many grand blooms were shown. Mr. J. Payne, gardener to Miss Seagram, Salisbury, was first for twenty-four Japanese varieties, these consisting of Mrs. H. Weeks, Mr. C. H. Payne, Phœbus, Australia, Mrs. G. W. Palmer, Mons. Panekoucke, Lady Hanham, Lady Byron, Mr. Coombes, Mr. Hugh Crawford, very good; Eva Knowles, Edith Tabor, Vivand Morel, Madame Carnot, Mons. Chenon de Leché, Mons. Demay Tallandier, E. Molyneux, Charles Davis, Pride of Exmouth, R. Powell, G. J. Warren, Lady Ridgway, Milano, and N.C.S. Jubilee. The second prize was awarded to Mr. W. Robinson, gardener to Lord Ludlow, Westbury. For twelve Japanese varieties, Mr. T. Cook, gardener to D. E. Taylor, Esq., Marshfield, was first, showing fine blooms. Mr. G. Humphries, Chippenham, was a creditable second. Mr. J. White was first and Mr. J. Hinton second for six varieties. The first prize stand of twelve incurved Japanese, staged by Mr. W. Robinson, comprised medium sized, though otherwise perfect, blooms. In the class for six blooms of one colour, Mr. T. Cook was first for Madame Carnot, all remarkably good; second, Mr. G. Humphries, with the same variety, only slightly inferior.

For twelve incurved varieties Mr. W. Robinson was first with perfect blooms of C. H. Curtis, Lady Isobel, Chrysanthemiste Brunt, Miss Annie Hills, Dome d'Or, Duchess of Fife, Miss V. Foster, Ma Perfection, Mrs. H. J. Jones, Countess of Warwick, D. B. Crane, and Prince Alfred. There was a good display of vases of Chrysanthemums, hand bouquets, baskets of outdoor autumn foliage and berries, and table decorations.

Fruit was shown in fairly large quantities and of exceptionally good quality. Especially fine were the Alicante, Gros Maroc, Gros Colman, and Muscat of Alexandria Grapes shown by Mr. W. Taylor, grower for Alderman Chaffin, Bath, four first prizes being gained by this exhibitor. Others who did well with Grapes were Mr. G. Pym, gardener to Mrs. Gouldsmith, Trowbridge; Mr. Peacock, Bath; Mr. Jones, and Mr. T. Cooke. The most successful exhibitors in other fruit classes were Messrs. W. Marsh, W. Stragnell, G. Garraway, E. Hall, and A. Cross, gardener to H. O. Wills, Esq. Vegetables were also good.

Messrs. Cooling & Sons arranged a bank of stove and greenhouse plants, and in front of these a large collection of well grown Apples and Pears, not for competition. Messrs. L. House & Son, Westbury-on-Trym, exhibited a collection of all the finest Violets in cultivation, a specialty of theirs.

BOURNEMOUTH.—NOVEMBER 8TH AND 9TH.

THE Bournemouth and District Chrysanthemum and Horticultural Society held its thirteenth annual Show on the above dates at the Winter Gardens of the Hotel Mont Dore, and, as in previous years, was a great success.

For thirty-six cut blooms of Japanese, not more than two of any one variety, there were six entries. Mr. F. S. Vallis, Bromham Fruit Farm, Chippenham, Wilts, repeated his success of last year, and was placed first with a magnificent stand, including Mrs. Mease, E. Molyneux, Phœbus, Eva Knowles, Mrs. G. Carpenter, Pride of Exmouth, Pride of Madford, Madame Carnot, G. J. Warren, Pride of Exmouth, Marie Calvat, Souvenir de M. F. Rosette, Le Grand Dragon, Mrs. J. Beisan, Charles Davis, Swanley Giant, Mons. Chenon de Leché, Vivand Morel, Mutual Friend, Mrs. C. H. Payne, Mrs. G. W. Palmer, Mrs. J. Lewis, M. A. Barrett, Nellie Pockett, Mons. L. Remy, and Australia. Lady Theodora Guest (gardener, Mr. T. Wilkins) was placed second with a good stand. The third prize went to Louisa Lady Ashburton, Melchet Court, Romsey (Mr. G. Hall, gardener). An extra prize was awarded to Mrs. E. Atkins Wood, Hinton (Mr. D. Brown, gardener).

For twelve Japanese, distinct, there were eleven entries, and the first prize went to Sir W. Marriot, Down House, Blandford (Mr. T. Denny, gardener). Lady Theodora Guest was second, Viscount Portman (Mr. A. J. Allsop), third, and Louisa Lady Ashburton extra. For twelve incurved, distinct, there were six entries, and Louisa Lady Ashburton was first with a very good stand. W. R. Neave, Esq., Biston, Fordingbridge (Mr. W. J. Grace, gardener), was second, and Miss Church, Rodwell, Weymouth (Mr. J. Stevens, gardener), third. Six Japanese, one variety; six entries.—Lady Theodora Guest was first with Mrs. W. Mease; second, Mrs. Rodgett, Wareham (Mr. H. Mills, gardener), with Madame Carnot; third, Viscount Portman with Swanley Giant; extra, R. Neave, Esq., with Madame Carnot. Six incurved, one variety; five entries.—First, A. Nevin du Mont, Esq. (Mr. G. Eldridge, gardener), with C. Curtis; second, R. Neave, Esq., with Duchess of Fife; and third, H. B. Middleton, Esq. (Mr. W. Gallop).

For nine blooms, Japanese, one variety, on long stems arranged in a vase with any foliage, there was keen competition, and the first prize was awarded to Viscount Portman, who had Madame Gustave Henry arranged with Asparagus plumosus and Sprengeri, Ampelopsis, and Eulalia. Lady Theodora Guest was second with Mrs. M. Mease, who had sprays of Asparagus and Croton foliage; and R. Neave, Esq., with Mrs. H. Weeks, third. For a group of Chrysanthemums and foliage plants in a

space of 100 square feet there were only two exhibitors—viz., Messrs. G. Watts & Sons, Palace Nurseries, and Mr. H. Haskins, Branksome Nurseries, who received the prizes in the order named.

In the local classes there was keen competition, and some notable exhibits were staged. Especially so were the two groups of Chrysanthemums in a space of 50 square feet, for which a silver cup is offered with money prizes. Mr. C. Barret, gardener to G. J. Fenwick, Esq., Cray Head, secured the first prize with a grand group, containing some remarkably heavy blooms of Swanley Giant, Madame Carnot, Vivand Morel, Australie, Mdlle. Thérèse Ray, Graphic, and C. Davis. The cup becomes his own property, having previously won it twice. He was also awarded the National Society's certificate. Mr. L. J. Newell, gardener to W. H. Dore, Esq., Branksome Park, whose group was little inferior to the first, also received the National certificate.

Mr. A. J. Allsopp, gardener to Viscount Portman, staged a group of Begonia Gloire de Lorraine, arranged with Adiantums and Isolepis gracilis. The Begonias were upwards of 2 feet high, and were from cuttings rooted in March of this year. He was awarded a silver medal. G. H. Rools, Esq., Arcadia, Bournemouth, had a nice group of Orchids, principally Cattleyas, and for which he was awarded the Society's silver medal.

BROMLEY.—NOVEMBER 8TH AND 9TH,

THERE was evidently a falling off in the number of exhibits at this show, notably in the groups, but this could not be said of the quality, which was a distinct advance on the last show.

In the challenge cup class for forty-eight cut blooms, twenty-four Japanese distinct and a similar number of incurved in not less than eighteen varieties each, there were three competitors. Mr. C. Payne, gardener to C. J. Whittington, Esq., Bickley, proved the victor. His blooms were strong throughout. The varieties included Simplicity, Lady Hanham, Mrs. Maling Grant, Mrs. White Popham, Le Grand Dragon, Mrs. Coombs, Jas. Bidencope, Lord Ludlow, Phœbus, Madame Carnot, Melusine, Beauté Glenobloise, Mons. Chenon de Leché, Madame G. Debric, G. J. Warren, Australie, E. Molyneux, J. E. Clayton, Chas. Davis, Vivand Morel, Mrs. Mease, Wonderful, Nellie Pockett and Edith Tabor. The incurved blooms were neat and well finished, and included Lady Isobel, Chrysanthemiste Bruant, Duchess of Fife, Chas. H. Curtis, Ma Perfection, Ernest Cannell, Globe d'Or, Yvonne Desblanc, George Haigh, Madame Ferlat, Hanwell Glory, Mrs. R. C. Kingston, Pearl Palace, Violet Tomlin, King of the Yellows, Austin Cannell, Dorothy Foster, and Triomphe d'Ève. Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley Hall, was a good second, while Mr. S. B. Wheadon, gardener to J. Layton, Esq., Bickley, was third.

For twenty-four blooms, twelve Japanese and twelve incurved, Mr. L. Budworth, the Horticultural College, Swanley, was first out of six competitors. The incurved were very strong, and consisted of well grown blooms of Chas. H. Curtis, Chrysanthemiste Bruant, Lady Isobel, Madame Ferlat, Globe d'Or, Ma Perfection, Perle Dauphinoise, Robert Cannell, Queen of England, Topaze Orientale, Mrs. S. Owen, and Mrs. R. C. Kingston. The Japanese blooms were Australie, Duke of Wellington, Mrs. C. H. Payne, Madame Carnot, Mons. Chenon de Leché, Vivand Morel, Mrs. R. Jones, Graphic, Mrs. J. Lewis, Phœbus, Chatsworth, and Mrs. G. W. Palmer. Mr. C. Payne was second with clean, well finished flowers, and Mr. J. E. Poole, gardener to A. G. Hubbuck, Esq., Chislehurst, third.

For twenty-four Japanese distinct, there were three entries, but Mr. L. Budworth again secured the premier award with a well finished stand of Chas. Davis, Graphic, Mrs. C. H. Payne, Madame Carnot, Mrs. W. Popham, Madame Louis Remy, Mons. Demay Taillandier, and Vivand Morel, Mr. T. Carrington, Lady Hanham, Mrs. Mease, Surpasse Amiral, Chatsworth, Eva Knowles, Mrs. J. Lewis, Mons. Chenon de Leché, R. Powell, Mrs. R. Jones, Hairy Wonder, Duke of Wellington, Duke of York, N.C.S. Jubilee, Mrs. W. G. Palmer, and Titiana. Mr. E. Dove followed, and Mr. C. Payne was third.

The class for eighteen blooms, to consist of six Japanese, six incurved, and six reflexed blooms, brought six entries, and the first prize was awarded to Mr. J. Lyne, gardener to H. E. Tiarks, Esq., Chislehurst. Mr. J. E. Poole was a good second; and Mr. W. Thomas, gardener to J. Greig, Esq., Chislehurst, was third. The twelve incurved blooms, distinct, was represented by six stands, and Mr. J. Lyne was placed in the first position. His blooms were Duchess of Fife, Mrs. R. C. Kingston, Topaze Orientale, Chrysanthemiste Bruant, Lady Isobel, Madame Ed. Roger, Hanwell Glory, John Lambert, Chas. H. Curtis, Globe d'Or, Mrs. G. Williams, and Mons. Desblanc. Mr. J. E. Poole followed, and Mr. S. Budworth was third. For six incurved blooms there were six entries, and Mr. J. E. Poole annexed the first prize, Mr. F. Francis the second, and Mr. W. Thomas the third.

The class for twelve Japanese blooms, distinct, was keenly contested. Mr. L. Budworth was adjudged the victor. Mr. W. Pascoe, gardener to Captain Torrens, Hayes Common, was second, and Mr. J. Lyne made a good display for third place. For six Japanese varieties, distinct, there were seven entries. The first prize was awarded to Mr. E. Stone, gardener to C. D. Clark, Esq., Eccles Hill. Mr. F. Francis was second, and Mr. W. Pascoe third. For six blooms, one variety incurved, there were five entries. Mr. J. Lyne was placed first for a good box of Duchess of Fife, while Mr. J. E. Poole was second, staging Globe d'Or, and Mr. R. Filkins was third with Mrs. J. Eadie. In the class for six blooms, one variety Japanese, there were four competitors. Mr. C. Jordan winning handsomely with Madame Carnot, while Mr. J. E. Poole followed, with Mr. T. Carrington and Mr. E. Legg, gardener to D. Astle Esq., Bickley, third with Madame

Carnot. Mr. E. Dove was the only competitor for a group of Chrysanthemums to occupy a space of 50 feet, and a fine display was made, the plants were dwarf and well grown though somewhat stiffly arranged.

KINGSTON.—NOVEMBER 8TH AND 9TH.

THIS famous society held its annual exhibition on the above dates. In the large Drill Hall there was no difficulty in arranging the exhibits. We could not help observing, in fact, that the crush of former years, when every inch of space was taken up, was conspicuously absent, and it will require a strong pull on the part of the present executive to prevent loss of its glorious prestige. The members of the Committee are enthusiastic, and they will doubtless work well, so that this may not come about. A group of miscellaneous plants brought two competitors, the first prize going to Mr. J. Lock, gardener to C. Swinfen Eady, Esq., Q.C., Oaklands Lodge, Weybridge; second, Mr. T. H. Bolton, gardener to Mrs. Blacker, Coombe End, Kingston.

The chief cut bloom class was that for thirty-six Japanese, distinct. Here the first prize was obtained by Mr. W. Jinks, gardener to E. Bruce, Esq., Walton, with a bright even stand of flowers. The varieties were Madame Carnot, Mrs. J. W. Barks, Sec. Fierens, Lady Ridgway, Madame Gsa. Henry, Werther, G. J. Warren, Pride of Madford, Pride of Exmouth, Australie, Edith Tabor, Mrs. J. Lewis, Madame Champion, Mrs. Palmer, Mrs. Weeks, E. Molyneux, Modesto, Lady Hanham, Mrs. C. H. Payne, Pres. Nomin, Nelly Pockett, M. Hoste, Robert Powell, Oceana, Simplicity, Duke of Wellington, Mrs. M. Grant, Madame Desir, Mons. Chenon de Leché, Madame L. Remy, Eva Knowles, Reine d'Angleterre, Mrs. Chas. Keyser, Madame Rosette, Phœbus, Pres. Bevan very fine; second, Mr. G. J. Hunt, gardener to P. Ralli, Esq., Ashted Park, Epsom; third, Mr. F. King, Holmwood, Dorking. For a dozen Japanese Mr. G. Mileham, gardener to A. T. Miller, Esq., Emlyn House, Leatherhead, was first, with Madame Carnot, Vivand Morel and Nelly Pockett in good form; second, Mr. Burley, gardener to E. H. Doriet, Esq., The Lee, Epsom; third, Mr. G. W. Forbes, gardener to Madame Ricols, Regent House, Surbiton.

In the class of twelve reflexed Japanese Mr. King came first, also for twelve incurved Japanese, followed in both cases by Mr. S. Pead, gardener to R. S. Bond, Esq., Surbiton. Six Japanese, one variety, first Mr. King with nice blooms of Mrs. H. Weeks; second, Mr. Jinks. In the open classes for incurved Messrs. King and Hunt, who were first and second, exhibited good blooms, and in singles Mr. Forbes came first; second, Mr. Pead. For Pompons Mr. Caryer, gardener to A. G. Meissner, Esq., was first. Anemones were well shown by Mr. Jinks.

The varicous local classes were well contested. Mr. Bolton won in twelve Japanese; second, Mr. Pead. For six Japanese the best came from Mr. C. Rhymes, gardener to Mrs. Nowise, Surbiton; second, Mr. Wm. Atkins, gardener to R. W. Munro, Esq., Oakfield, Kingston Hill. Mr. Forbes had the best blooms in a class for twelve incurved, followed by Mr. Pead.

In fruit Mr. Lock took the lead for a collection of four dishes, followed by Mr. Wm. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge. The last exhibitor won in both black and white Grapes. Mr. Lock was also first for Apples; second, Mr. E. McCormack. Mr. Forbes had the best Pears. An excellent collection of Apples was put up by Mr. A. Dean, not for competition. Mr. Will Taylor, Hampton, had Apples and outdoor Grapes. Messrs. W. Wells & Co., Earlswood, staged a few new Chrysanthemums, one—Lord Salisbury—being thought worthy of a certificate.

MONMOUTH.—NOVEMBER 8TH AND 9TH.

ON Wednesday and Thursday the ninth annual show of the above Society was held in The Rolls Hall, and there is no hesitation in describing it as the most successful ever held under the auspices of the Society. The exhibition, as usual, was under distinguished patronage. Lord Llangatock is again its President, there is a long list of Vice-Presidents, and the working Committee comprises a strong company of local gardeners and horticulturists, with Mr. Fred C. Williams as Hon. Secretary, who has again carried out the duties with energy and tact.

It is a matter of some surprise, says the "Herefordshire Beacon," that the quantity of flowers, plants, fruit and vegetables collected together can be so conveniently arranged within the confines of the hall, and the Committee must be credited with considerable ingenuity in arranging the classes so tastefully, and at the same time to the best advantage. In the open classes for Chrysanthemums interest naturally centred in the groups. There were three entries, which were arranged on the right of the hall, and Mr. Henry Pitt, of Abergavenny, secured the £5 5s. silver cup, beating Mr. J. M. Bannerman who has hitherto gained this prize at every previous show of the Society. There was really little to choose between them, and Mr. Bannerman's collection included some of the best blossoms in the show, but some of the blooms on the outer edges of the group were faulty, so injuring the general effect. Canon Harding's group was very pretty, and the plants were well grown. The trained specimen gave little difficulty in judging, Captain Skirrow, of Brookweir, showing a finely developed Vivand Morel with about a dozen good blooms.

In the cut bloom classes Mr. Pitt again secured first with the twenty-four incurved varieties, but was closely followed by Mr. Bannerman. The two entries for the twelve varieties were capital, but interest centred most in the twenty-four Japanese varieties, and here again Mr. Pitt was victorious, having for his opponent Mr. J. C. Hanbury, Pontypool Park, who ran him so close that the judges had to go through the boxes point for point before coming to a final conclusion. Mr. Pitt's blooms in this collection were so good that we give a list of the best: Simplicity, Mrs.

Coomber, Annie Prevost, Madame Carnot, E. Tabor, J. G. Warren, Marie Calvat, Vivand Morel, J. Seward, Nellie Pickett, N.C.S. Jubilee, Mrs. Mease, J. Scaramanga, G. Carpenter, and Mrs. G. W. Palmer. Mr. Hanbury's best blooms were Phobus, Graphie, Madame Gustave Henry, Charles Davis, Mrs. G. W. Palmer, Mrs. Mease, N.C.S. Jubilee, Pride of Madford, Mrs. J. Lewis, and Edith Tabor. These blooms were fit to exhibit with credit at the London and Birmingham shows. The twelve Japanese varieties were also good, and the best blooms of Mr. Wright, of Linton, the winner of the first prize, were Mrs. J. Lewis, C. Davis, C. Blick, Australian Gold, Australia, and Phobus. The Anemone class was exceptionally good, the winning collection, Mr. C. S. Adams', being fine, clean, and bright. Mr. H. C. Moffatt secured the Ryecroft silver-gilt medal for the six Japanese varieties, his best blooms being Madame Carnot, Vivand Morel, Mrs. C. H. Payne, Madame Gustave Henry, and Cloth of Gold. In the amateur classes, both for the pot plants and cut blooms, the entries filled but moderately. The open pot plant classes were well filled, and competition was keen.

There was fairly keen competition in the open classes for cut flowers and vases. In the *epergne* Mrs. Watkins was an easy first, the others not showing sufficient arrangement. Mr. Pitt secured first in the hand bouquet, which was exceedingly pretty, and also in the gentleman's buttonhole, which consisted of a single *Niphetos Rose*. In the lady's sprays there was a tendency to make them too large, but Mrs. Watkins again upheld the supremacy of local talent in this respect. The wreaths were exceptionally beautiful, and here again Mrs. Watkins was first, with Mr. E. W. Hyam second, and Mr. Pitt third. In the amateur classes there is little to comment upon, except to say they were tastefully arranged. Miss King was a frequent winner in these classes.

There was a large quantity of fruit shown of excellent quality, the season having been fairly favourable. Apples naturally predominated, and the collection sent by Mr. T. Coomber, gardener to Lord Llangat-tock was magnificent. The bunches of Grapes were small but well coloured. Considering the season the vegetables were extraordinary, especially the Potatoes. In the latter classes Mr. Walter Haskins, Church Farm, Penalt, almost swept the deck both in the open and amateur sections, and a box of Up-to-Date Potatoes, not for competition, sent by him contained some exceedingly large specimens.

PUTNEY.—NOVEMBER 8TH AND 9TH.

THE twenty-second annual Exhibition of the Putney, Wandsworth, and District Chrysanthemum Society was held on Thursday and Friday at the Cromwell Hall, Putney Bridge Road, and proved an unprecedented success. The exhibits compared favourably in numbers with previous years, whilst the quality was above the average, and the exhibitors deserve special commendation, inasmuch as the season has been a most trying one for the cultivation of this particular flower. The groups in class 1 were, says a local contemporary, also highly commendable.

The Putney and District tradesmen's prize, which, instead of taking the form of a cup, as in 1897, the money (£25) was divided—£10 for first, £7 for second, £5 for third, and £3 for fourth. For twelve vases of Chrysanthemums, twelve varieties, three blooms each, Chrysanthemum foliage only to be used, first Mr. F. King, second Mr. G. J. Hunt, third Mr. A. Smith. For the best collection of Chrysanthemums, not less than twenty varieties, quality and general effect to be the leading features in this class (space not to exceed 40 feet superficial, 10 feet by 5 feet semicircle), first Mr. John French, second Mr. T. Martin, third Mr. W. Tew. For two Japanese Chrysanthemums, single stems (trained), any size pot; single specimen, large-flowered standard incurved; single specimen, standard Japanese; single specimen Pompon, single stem; single specimen standard Pompon, height in stem no less than 24 inches; twenty-four blooms, incurved, not less than eighteen varieties, and not more than two of a sort; twelve cut blooms, incurved, distinct, Mr. Charles Bentley was first in each case. Twenty-four cut blooms, Japanese, distinct, Mr. J. Dark, gardener to J. Hooker, Esq., Lamond House, first; Mr. John French second. Twelve cut blooms, Japanese, distinct, Mr. A. Smith first, Mr. S. Hutton second. Six cut blooms, Japanese, distinct, Mr. J. Dark first, Mr. D. Anderson second, Mr. J. Hutton third. Twelve bunches Pompons, six varieties, three to form a bunch, Mr. C. Bentley first. Six varieties single Chrysanthemums, three to form a bunch, Mr. C. Bentley first.

LAUNCESTON.—NOVEMBER 9TH.

THE fourth annual exhibition of the Launceston Chrysanthemum and Fruit Society was held in the Town Hall on Thursday. Big as have been the successes of previous year's shows of this young but flourishing Society, they were all eclipsed by Thursday's show, which was voted to be exceptionally good, both in the quality and quantity of the exhibits of Chrysanthemums and fruits. The total entries at Thursday's show, which was very largely attended, were in excess of those of any previous year. The Chrysanthemums, says the "Launceston Weekly News," were, on the whole, in good condition, the season having been favourable for this increasingly popular bloom. The groups of Chrysanthemums proved very attractive. Cottagers' exhibits were highly creditable, while there was some splendid competition in the Zonal classes. Apples were pronounced exceptionally good, but Pears were somewhat under standard. The bunches of Grapes gave the Judges considerable trouble, some fine specimens being shown. Competition in the ladies' table decoration was not so keen as might be wished, but the three winners are to be congratulated on the splendid result of their labours, their tables being real works of art. A prominent

feature was an exhibition of Apples from the fruit plot at Ridgegrove, started under the auspices of the Launceston Technical Instruction Committee.

For a group of Chrysanthemums, arranged in a space not exceeding 80 square feet, quality and general effect to be the leading features.—First, Miss Garney, Trebunry (gardener, Mr. J. W. Ruse). Second, E. Pethybridge, Esq., Manaton (gardener, Mr. J. Parsons). Group of Chrysanthemums, 60 square feet.—First, E. Pethybridge, Esq. Second, W. Wevill, Esq., Trevell (gardener, Mr. A. Tolman). Twenty-four Japanese.—First, F. Bradshaw, Esq., Lifton Park (gardener, Mr. F. Clatworthy). Second, — Tritton, Esq., Plympton (gardener, Mr. H. Dyer). Twelve Japanese.—First, F. Bradshaw, Esq. Second, Rev. H. H. du Boulay, Lawhitton (gardener, Mr. R. Wish). Third, H. Tritton, Esq. Twelve incurved.—F. Bradshaw, Esq. For the best arrangement for effect of flowers in vases.—First, E. Pethybridge, Esq. Second, Rev. H. H. du Boulay. Third, F. Bradshaw, Esq.

Grapes.—First, F. Bradshaw, Esq. Second, J. W. Grant, Esq., Launceston. Third, H. Tritton, Esq. Dessert Apples.—First, H. Tritton, Esq. Second, G. H. Mounsdon, Esq. Third, E. Pethybridge, Esq. Fourth, J. Blythe, Esq., Idle, Exeter. Cooking Apples.—First, F. Bradshaw, Esq. Second, Rev. H. H. du Boulay. Third, G. H. Mounsdon, Esq. Dessert Pears.—First, E. Pethybridge, Esq. Second, F. Bradshaw, Esq.

MAINDEE.—NOVEMBER 9TH.

THE eleventh exhibition was held in the Gymnasium, Newport. This was originally a cottagers' show, but has steadily grown into one of considerable dimensions. In this instance the productions of cottagers were about the best seen from exhibitors with their limited appliances, the premier bloom being selected from a cottager's stand. Trained plants are also done remarkably well in the neighbourhood.

In the open group the first was that of Mr. J. Pegler, gardener to H. J. Davis, Esq.; second, Mr. W. T. Nead, gardener to N. Anning, Esq. For a group confined to local growers the leading one of seven was that of Mr. J. Duff, gardener to Mrs. Williams; second, Mr. J. Knight, gardener to F. Phillips, Esq.

The chief cut bloom class was for twelve Japanese. Here Mr. Duff led, followed by Mr. H. Powell, gardener to E. Fowler, Esq. Mr. Pegler was first for trained plants, and the best bush specimens came from Mr. R. Giddings, gardener to S. Dean, Esq. This last exhibitor won in trained plants, for gentlemen's gardeners only. Really excellent blooms came from the amateurs. Mr. J. W. Whitrow was first for twelve; second, Mr. B. Fry. For six Japanese the best were those of Mr. A. Morgan; second, Mr. Whitrow.

A class for six dishes of Apples, open to the county, was interesting. Mr. E. Vivian, gardener to W. J. Lloyd, Esq., led; second, Mr. T. B. Wilson. Mr. J. Basham, The Nurseries, Bassaleg, had a large table of fine fruit and flowering plants, which was much admired.

WESTON-SUPER-MARE.—NOVEMBER 9TH.

ALTHOUGH this fixture clashed with those of Bath, Bristol, and Cardiff, this had no appreciable effect on the number of entries. The most marked falling off was in the trained plant classes. Messrs. W. Brooks and Sons, Weston-super-Mare, were first in all six classes and made a grand display, the standards in particular being remarkably well grown and flowered. Groups and untrained plants were all good, the competition in these classes proving more satisfactory. Miscellaneous plants were also well represented.

There were five competitors with twenty-four incurved, in not less than eighteen distinct varieties, all staging creditably. Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Langport, was placed first, showing fresh, solid, well-coloured blooms of Lady Isabel, N. Molyneux, C. Curtis, Ma Perfection, O. S. Bates, Madame Ferlat, Brookleigh Gem, Perle Dauphinoise, Topaze Orientale, W. O. Egan, Princess of Wales, Jeanne d'Arc, Globe d'Or, R. C. Kingston, Violet Foster, King of the Yellows, and Mrs. S. Coleman. Mr. A. J. Driver, gardener to the Misses Davies, Stonehouse, was a good second, Messrs. W. Brooks & Sons, third, and Mr. Wilkinson, gardener to Mrs. Talbot Greaves, fourth. With twelve incurved varieties Mr. W. Strugnell, gardener to Col. Vivian, Trowbridge, was first, and Dr. J. H. Sharpe, Huntsfield, was second.

There were eight competitors with twenty-four Japanese varieties, distinct, all following close upon each other, but owing to the great crush of visitors a complete report could not well be taken. Messrs. W. Brooks and Sons were placed first, with Mr. J. Lloyd only a few points behind. In the first prize stand were fine fresh blooms of President Nonin, Mrs. W. Popham, Mr. T. Carrington, Mrs. J. Lewis, R. Powell, Swanley Giant, Oceana, N.C.S. Jubilee, Lady Hanham, Rose Wynne, and Nellie Pickett. The other cut bloom classes were also well filled, and there was a good display of baskets of autumn foliage and berries, bouquets, vases, and the like; while the show of Grapes, Apples, and Pears was the best yet seen at Weston-super-Mare.

WINDSOR.—NOVEMBER 9TH.

IN the Royal Albert Institute the autumn exhibition was held, and was a success in point of quality of the exhibits. Groups of Chrysanthemums were a strong feature of the show. The leading class was that won by Mr. W. Cole, gardener to Mrs. E. B. Foster, Clewer Manor, Windsor, with dwarf plants thoroughly clothed with dark green leaves and surmounted with noble blooms. Mr. H. Treen, gardener to A. H. Benson, Esq., Anchouwycke, Wraysbury, was second. In the amateur division four exceedingly fine groups were staged. Mr. H. Edward,

Albert Street, Windsor, secured the premier award; Mr. J. T. Young, Albert Street, Windsor, second; Mr. J. R. Stribling third.

Cut blooms were not numerous, but of good quality. In the class for twenty-four Japanese Mr. Sturt, gardener to N. L. Cohen, Esq., Eaglefield Green, Ascot, won the premier award with large, fresh, well staged blooms of Mutual Friend, T. Carrington, Nellie Pockett, Pride of Madford, Australian Gold, Madame Carnot, Mrs. Mease, Simplicity, Phoebe, M. Ricard, Vivand Morel, and G. J. Warren. Mr. G. Lane, gardener to Miss Ridg., Highfield, Eaglefield Green, was second. In a similar class for incurved Mr. Sturt again led the way with medium-sized neat blooms of C. Curtis, Lady Isobel, Miss V. Foster, Lucy Kendall, Ma Perfection, V. Tomlin, and Duchess of Fife. Mr. Lane was second.

For six Japanese, and one variety, there was stiff competition. Mr. Sturt, with really good specimens of Madame Carnot, secured the leading award. Mr. J. Marsham, gardener to Miss Arnott, The Glade, Eaglefield Green, came next with well coloured specimens of Lady Hanham. With smaller examples of Madame Carnot Mr. J. Wood secured the remaining prize. For local growers a silver challenge cup was offered for twelve Japanese and the same number of incurved, distinct. For this there was a spirited competition. Mr. Sturt followed up his previous success by taking again the premier award. Mr. Lane followed. For twelve incurved Mr. F. J. Paul, gardener to Mrs. Bowring Forest Farm, Windsor Forest, secured the first place with neat examples of popular varieties. Mr. W. Hutt, gardener to Captain Farwell, The Priory, Burnham, was second; Mr. J. Williams, gardener to F. Ricardo, Esq., The Friary, Old Windsor, third. Ma Perfection in almost faultless condition secured for Mr. Sturt the leading place in the class for six incurved, any one variety. C. Curtis for Mr. J. Wood won the second place.

Baskets or vases containing twelve blooms with not less than 12 inches of stem, arranged with their own or natural foliage, have always been a feature at this show. This year they were not so numerous. Mr. Sturt, with full-sized exhibition blooms harmoniously arranged in a tall vase, won the premier prize, Mr. J. Wood following.

BRISTOL.—NOVEMBER 9TH AND 10TH.

THE thirty-sixth exhibition of this Society was held in the spacious Drill Hall on the above dates, and both in point of quality and extent maintained the high position of the past, despite the fact that other West of England shows occurred on the same days.

Cut blooms naturally occupy a foremost place, and are liberally catered for, the principal class being that for thirty-six Japanese, not less than twenty-four distinct varieties. A challenge vase, value £12 12s., and six prizes from £5 downwards, are offered. Mr. Wilkins, gardener to Lady T. Guest, Blandford, having now won it for the third time, finally secures the coveted vase, with a stand of very high quality, and which comprised the following:—Mrs. Mease, Mrs. W. Popham, Mrs. J. W. Barks, Madame Carnot, Australia, M. Louis Remy, Australian Gold, Silver Queen, Chas. Davis, Lady Hanham, Le Grand Dragon, International, V. Morel, J. Scaramanga, Mrs. W. Popham, J. Brooks, Duke of York, Edith Tabor, Mrs. H. Weeks, Madame G. Henri, Marie Calvat, Mrs. G. W. Palmer, Mrs. H. Weeks, Lady Clark, Lord Ludlow, Nellie Pockett, Lord Salisbury, M. Louis Remy, Joseph Brooks, and Chataworth. Mr. G. Runnacles took the second prize with a stand almost equal in merit to that of the winning one. Mr. G. Cooper, gardener to W. MacAdam Smith, Esq., was third.

The next class, that for twenty-four incurved, not less than eighteen distinct, was well contested, though not so keenly as the first. Mr. G. Runnacles took the lead with Ma Perfection, Lady Isobel, C. H. Curtis, Duchess of Fife, Mons. Desblanc, Bonnie Dundee, Express of India, C. B. Whitnall, King of Orange, Miss V. Foster, Jeanne d'Aro, Hero of Stoke Newington, Madame Ferlat, Mrs. R. C. Kingston, W. Harvey, Lord Wolseley, Countess of Warwick, and D. B. Crane. Mr. J. Wilkinson was a good second.

Classes are provided for twelve Japanese, and the same number of Japanese incurved. Mr. Hack, gardener to W. Pethick, Esq., Stoke Bishop, secured the first prize in each, followed by Mr. Iggliden and M. Hartley, Esq., in one; and Mr. Robinson, gardener to Lord Ludlow, Heywood, and W. A. Todd, Esq., in the other. Mr. Robinson was well ahead for twelve incurved, Mr. J. Baylis second; and for six Mr. G. Runnacles and Mr. Robinson shared the prizes. The latter took the lead with twelve Anemone-flowered, twelve reflexed, six new varieties of 1898 and 1899, and one bloom of any new Japanese variety in a spirited competition. A class provided for twenty-four blooms, Japanese, cut with long stems, and arranged with Ferns and other plants, made a pretty feature. In this Mr. Pethick's gardener was again successful, Messrs. W. A. Todd and J. A. Waller taking the remaining prizes.

There are two classes for groups of Chrysanthemums (60 square feet each) which at Bristol are always good in quality and arrangement. A. Shipley, Esq., a successful exhibitor of past years, maintained his prestige on this occasion, though J. O. Godwin, Esq., and Mr. Ross both staged creditably in that for Chrysanthemums alone. Trained plants in various forms have classes provided for them, and are generally well contested, but they do not arouse the same enthusiasm among the public or growers they did a few years since.

The Committee, a most excellent one, comprises among its members a selection of the leading gardeners in the neighbourhood, is well supported by an extensive list of patrons as well as the public, who crowded the hall on both days of the Show. After several years of retirement, Mr. George Wobley has returned to the office he once so admirably filled as Secretary, and is ably assisted in various ways by Mr. J. H. Vailence.

ALTRINCHAM.—NOVEMBER 10TH AND 11TH.

ALTRINCHAM and district is noted for several good things—firstly because it is the chief home of the celebrated firm of Messrs. W. Clibran and Son; and secondly, that the gardeners are real workers, and are helped by the inhabitants, as judged by the splendid results gained at the annual concert in aid of the gardening charities. The Committee, under the guidance of Mr. B. Fletcher, and with so estimable a Secretary as Mr. C. C. Moore, is indeed fortunate, for smooth working is a leading feature.

Two other shows in the immediate neighbourhood on the same day is not calculated to get great competition in the open class, and if a little looseness was here noticeable, the strong point of the show was to be found in the groups. Six prizes brought out six competitors in the disbudded class, and such flowers, too, as to almost make one marvel. The Judges had much difficulty in deciding, but finally gave the first award and gold medal to Mr. T. Jolson, gardener to Watson Baxter, Esq.; the second to Mr. G. Holbrook, gardener to Sir A. Pollett; and the third to Mr. James Clark, gardener to R. A. Naylor, Esq. Delightful as were the large-flowered sorts, the decorative groups almost surpassed them. Dainty singles, spidery, and every conceivable form for cutting were represented, and Mr. Halfpenny, gardener to Mrs. G. Hardy, won the first prize and gold medal by intrinsic merit. Mr. G. Ashbrook, gardener to W. B. Edmondson, Esq., ran a close second, and Mr. Holbrook a capital third.

In the open class for cut blooms Mr. A. H. Hall, gardener to G. C. Waterhouse, Esq., Prestbury, won handsomely with twelve incurved and twelve Japanese, the finest being Lady Isobel, Topaze Orientale, Jeanne d'Aro, Baron Hirsch, Austin Cannell, and Mr. J. Murray. Japanese: G. W. Palmer, C. H. Payne, Mrs. W. Popham, Mrs. A. H. Hall, Phoebe, and Lady Byron. The second prize was worthily awarded to Mr. A. Calderbank, gardener to W. J. Crossley, Esq., Glenfield, Altrincham. For twelve Japanese Mr. Hall was in splendid form; Mr. Calderbank led for twelve incurved and Japanese. For twelve Japanese Mr. J. Mott, gardener to Mrs. Bowden, had amongst others very good Ella Curtis, Madame Gustave Henri and Edwin Molyneux.

Classes there were in abundance to suit all tastes, some of which were warmly contested. Bouquets were pretty, sprays seemed much too large, several of the buttonholes were excellent, and Orchids well flowered. Hardy fruit formed a bright picture, but Pears were inferior. Grapes good. Roman Hyacinths I have never seen surpassed. In the absence of the President, Thos. Craven, Esq., J.P., D.L., the show was opened by the Rev. C. C. Atkinson, D.D.

ECCLES.—NOVEMBER 10TH AND 11TH.

BRAVO Eccles! Few amongst Northern shows cater so liberally for every section of Chrysanthemum growers. The Town Hall looked charming, and the old pleasant order of things was unchanged save for the fact that in the open class the blooms were never approached at any previous show, and quite in the very front rank. Growers come and go, but all are of the same opinion that no finer secretary could be found than Mr. H. Huber, a gentleman whom all visitors have learned to largely esteem. In the presence of a representative assembly Mr. Stewart Garnett, of Pendleton, gave an instructive address on the history of the Chrysanthemum.

The chief class is for twelve Japanese and twelve incurved, distinct, the challenge cup, value 8 guineas, going with the first prize. Interest was aroused, the cup having been won twice by Mr. C. Osborne, gardener to H. Tate, jun., Esq., Allerton Baches, Liverpool, and who again essayed the task against such a formidable opponent as Mr. J. Kirkman, gardener to J. Starming, Esq., Leyland. The Judges' decision was in favour of Mr. Osborne, and Liverpudlians will be glad to hear of his success. The varieties were Graphic, Pride of Exmouth, Master H. Tucker, Madame Gustave Henri, Phoebe, Australia, Mrs. H. Weeks, Mrs. Palmer, Madame Gabriel Debris, Nellie Pockett, Duke of Wellington, and Lord Ludlow. Incurved: Ma Perfection, Lady Isobel, Madame Ferlat (which won the N.C.S. certificate), Duchess of Fife, C. H. Curtis, Mrs. N. Molyneux, Dorothy Foster, Ernest Cannell, Perle Dauphinoise, Topaze Orientale, Sir Trevor Lawrence, and Violet Foster. Mr. J. Davies, Carnarvon, was third. In all the classes following Mr. Osborne was victorious, these being for twenty-four miscellaneous, twelve Japanese, twelve incurved, six incurved and six Japanese, altogether a very fine performance. Mr. Carling, gardener to Mrs. Cops, Dove Park, Woolton, and Mr. J. Davis, Carnarvon, were the second prizewinners.

In the amateur section the competition was excellent, the blooms throughout, being infinitely better than on former occasions, Mr. J. Atherton winning the handsome silver cup presented by Henry Lightbown, Esq., J.P., Pendleton, for six incurved and six Japanese. In section 3, for those who do not employ a gardener, yet another silver cup was presented, this time by W. S. Boddington, Esq., Eccles, and for the third time was won by Mr. E. J. Chambers, and becomes his own property. Plants always make a fine display, the silver medal of the N.C.S. going to Mr. R. Wainwright, gardener to A. Cross, Esq.; Mr. T. Mulloy, gardener to Thos. Harker, Esq., being second. The half-circular group of plants from Mr. T. Elkin, gardener to Mrs. Agnew, formed a most effective picture. Messrs. Huber, Atherton, Woolans, Lewis, Mullins, and Chambers took prizes galore.

Bouquets filled the front of the orchestra, and extended far down the hall, with Palms as a background. Not only was the quality fine, but the taste displayed was excellent. Mr. J. Gratrix took the lead, and was closely followed by Mr. Carling. For a single he was again the winner, whilst Mr. Elkin led for an epergne, and Mr. Osborne with six

Chrysanthemum sprays. Trade exhibits of high quality came from Messrs. Dickson, Brown, & Tait, and Dickson & Robinson, both of Manchester.

LEICESTER.—NOVEMBER 10TH AND 11TH.

THE fine exhibition held in the Temperance Hall on the above dates was a decided success. The best of the cut blooms were fully equal to those of last year, and the quality was far more uniform throughout, the competition in every class being extremely keen, the victors in several cases winning by only a few points. Specimen plants showed a marked improvement on former years. Table groups of plants and cut flowers were a distinct feature, and table decorations composed of *Chrysanthemums* and foliage supplied many pleasing arrangements. Fruit was well shown.

For eighteen Japanese, distinct, the coveted award went to Mr. J. Smith, Derby Road Nursery, Loughborough, who staged a stand of fresh clean flowers containing many fine deep blooms. The varieties were—Back row: Vivian Morel, Mrs. Mease, fine; Eva Knowles, Lady Clara, Harman Payne, Phœbus, grand. Middle row: Mrs. Palmer, good; Pride of Madford, fine; Madame Carnot, General Roberts, Julia Scaramanga, Mrs. W. Popham. Front row: N.C.S. Jubilee, fine; Le Grand Dragon; Mr. Coombes, Mons. Chenon de Leché, Lady Byron, and W. Cusham. The second prize was well won by Mr. Frank Clarke, The Gardens, Wistow Hall, Leicester. The Rev. Montague Bird, Walton Rectory, was a good third.

For twelve incurved, distinct, Mr. Clarke proved the victor, staging fine deep blooms of the following varieties: Miss V. Foster, Duchess of Fife, Globe d'Or, Madame Ferlat, Mrs. N. Molyneux, grand; Lord Wolseley, Mr. R. C. Kingston, Emily Dale, Mdm. E. Roger, extra good; O. H. Curtis, and Madame Darier. Mr. J. Smith was second. The third award went to Rev. M. Bird. For twelve Japanese, Mr. Clarke was again to the front, staging fine blooms. The Rev. M. Bird was an exceedingly close second, and Mr. Smith a good third. Mr. Bird scored in the class for six incurved with blooms of very even quality throughout, Mr. Clarke being a very close second, and F. Sharpe, Esq., Libley, Leicester, third. For a similar number of Japanese the prizes went to Mr. Smith, Mr. G. Brown (gardener to H. Simpson Gee, Esq., Knighton Frith), and the Rev. M. Bird, in the order named.

For six blooms of any one variety, shown on long stems, the chief award was secured by F. Sharp, Esq., with fine blooms of *Ma Capucine*; Mr. A. Bell, Holmdale, Stonegate, Leicester, being second, and Mr. W. Whit (gardener to G. Coates, Esq., Queenly Hall), third. For three bunches of *Chrysanthemums*, each containing six blooms, Mr. Bell was a good first, Mr. Whit second, and Mr. Brown third. J. Sharp, Esq., also won for six vases of *Chrysanthemums*, each containing three blooms, being followed by Mr. Brown and Mr. Bell in the order named. Six vases small decorative *Chrysanthemums*, first Mr. Bell; second, Mr. Barsley, Leicester; third Mr. Tarry.

The prizes offered for table decoration to be composed of *Chrysanthemums* and foliage brought out a good competition, the premier position being won by Mr. E. Carnall, Essex Road Nursery, Leicester, whose stands were beautifully arranged, but the tracing weak and scanty. The Rev. M. Bird was a close second; the blending of the various shades of coloured leaves in this arrangement was exquisite, but the arrangement of the flowers somewhat stiff and heavy. Mr. J. Tarry, Stone Bridge Street, Leicester, was third. Four good exhibits were staged in the class for a table group of plants and cut flowers arranged for effect. The premier award was easily won by Mr. H. Dunkin, Victoria Nurseries, Leicester, whose arrangement was composed entirely of *Chrysanthemums* cut with long stems, and arranged in a groundwork of Ferns. Fine deep blooms of C. H. Curtis, Australia, and E. H. Wood, were especially conspicuous. Mr. E. Carnall was second with an arrangement of Ferns, foliage plants, *Chrysanthemums*, Roman Hyacinths, and Lily of the Valley, and Mr. Clark a dangerously close third; his group contained grand plants of *Begonia Gloire de Lorraine*, Lily of the Valley, Palms and Ferns. Specimen plants were well shown by Messrs. G. Brown and D. Lewis, gardener to—Tyler, Esq., Stonegate, Leicester.

Messrs. Harrison & Sons, Leicester, staged a fine collection of vegetables; Mr. R. Pringle, Leicester, a large collection of highly coloured Apples; Messrs. Isaac House & Son, Westbury-on-Trym, Bristol, a beautiful collection of Violets of great size; and Mr. Scott Letts, London Road, Leicester, a showy exhibit of Apples. To each of the above the Society's certificate of merit was awarded.

SHEFFIELD.—NOVEMBER 10TH AND 11TH.

THE fifteenth annual Show of the Sheffield Society was held in the Corn Exchange, Sheffield, on Friday and Saturday, and in point of exhibits was far ahead of any previous exhibition held by the Society. The cut blooms, both in the open, district, and cottagers' classes, were excellent, the latter in many instances equalling those grown by the professionals. This section is usually very strong at Sheffield, and it is not saying too much when it is stated that they are the best grown by any cottagers in the country. The decoration of the hall was much to be admired; the introduction of large and small Palms was a vast improvement on other years.

In the open class for twenty-four cut flowers incurved, not less than eighteen distinct varieties, Mr. Crookes, Hadsor House, Droitwich was first with a very fine even stand of good flowers, including *Duchess of Fife*, very fine; Mr. W. Egan, Topaze Orientale, Madame Ferlat, *Chrysanthemiste Bruant*, C. H. Curtis, *Globe d'Or*, R. C. Kingston, Egyptian, Mrs. Dorothy Foster, Hanwell Glory, Jeanne d'Arc, Lucy Kendall, Mrs. Henle, R. Petfield, Mrs. S. Coleman, Violet Tomlin, and Bonnie

Dundee. Second prize was won by Mr. Goodacre, Derby; third, Mr. Alderman, Worksop. For twenty-four Japanese, in not less than eighteen distinct varieties, Mr. Crookes was again an easy first, his fine blooms being the centre of an admiring crowd during the whole time the exhibition was open. His flowers were exceptionally fine, and included Madame Carnot, Australia, Mrs. Mease, Mr. G. W. Palmer, J. G. Warren, Madame Gustave Henry, Edith Tabor, M. L. Remy, Pride of Woodford, Mons. Panckoucke, Lady Hanham, Le Grand Dragon, Secrétaire Fierens, Vivian Morel, Phœbus, very fine; Nellie Pockett, Eva Knowles, Pride of Madford, and Mons. Chenon de Leché. Mr. Goodacre was second with a good board; third prize, Mr. Drake, Cardiff, with a nice even board. In the twelve incurved and Japanese, Mr. Crookes again took the first prize, with Mr. Goodacre second.

In the district section, confined to professional gardeners within a radius of twenty miles, the first prize in both classes was won by Mr. C. Scott, gardener to I. Colley, Esq., Worksop, and his blooms are the more commendable from the fact that he has until this year resided at Sheffield, and the surroundings of Worksop are so much more favourable that it was expected he would not be so successful in properly timing the buds as when dealing with the smoke and sulphur of a manufacturing centre. His twelve Japanese consisted of Secrétaire Fierens, International, Edith Tabor, Madame Gustave Henry, Mutual Friend, Mons. Chenon de Leché, Vivian Morel, Mr. G. J. Palmer, C. Davis, Nellie Pockett, Lady Hanham, and Phœbus. Mr. Alderman was a good second, and Mr. Stables, gardener to Miss Wake, Sheffield, third. In the incurved Mr. Scott's blooms were again very fine, his chief flowers being C. Curtis, Ernest Cannell, and Lady Isabel, whilst a bloom of W. Tunn ngton was exceptionally fine. Mr. Alderman was again second, and Mr. Hill of Doncaster third.

The classes for groups were not so fully shown as usual, Mr. Davis, Bakewell, taking first for the district, and for the cottagers Mr. Glossop was easily first with four other exhibitors.

Good groups not for competition were also shown: the floral decorations of Messrs. W. Artindale & Sons and that of Mr. Seagrave both being awarded a gold medal, Messrs. Crosland Bros and Mr. Shaw a silver-gilt medal, whilst Messrs. L. Nelson, for a display of Apples, and Mr. Bray, for an exhibit of rockwork, were awarded bronze medals. Mr. Wells also showed cut blooms, and was certificated for a good new variety for cut blooms named *Etoile de Feu*. The weather was again unfavourable, and militated against a good attendance.

LIVERPOOL.—NOVEMBER 14TH AND 15TH.

FOR the first time for several years the members and friends of the above Association were honoured by the presence of the newly-elected Lord Mayor (Louis S. Cohen, Esq.), who seemed to take a very great interest in the excellent show opened in St. George's Hall. His Lordship was escorted by that enthusiast horticulturist Alderman W. H. Watts, a gentleman who has been, and still is, a great supporter of the Association. There were also of the party Mr. Thomas Foster (Chairman) and Mr. Harold Sadler (Secretary). Perhaps lacking somewhat in large decorative plants, the Show was fully up to the splendid traditions of Liverpool, and with a brilliant attendance of the élite of the city the hall presented a glorious appearance.

The great centre of the Show was the large cut bloom class for twenty-four incurved and twenty-four Japanese, distinct, a fine cash prize and the Association's challenge vase, value 20 guineas. Mr. Townshend, gardener to Col. Lloyd, Aston Hall, Shrewsbury, won it in 1896; Mr. Geo. Burden, gardener to Mrs. Cockburn, Lingdale Lodge, in 1897; and Mr. James Heaton, gardener to R. P. Houston, Esq., M.P., Alburgh, in 1898; and, as it had to be won twice in succession, the issue was much in doubt. Mr. Burden withdrew, but Mr. Heaton had Mr. Townshend and three others to fight against, and a glorious victory he achieved, winning with such finished flowers in both sections as have never been seen here before. It was a fitting climax to winning at Creasington last Saturday, and Mr. Houston has generously offered to the Committee the value in money or another cup for next year, an offer which the Committee has received with gratification. Throughout the cut blooms were extra, and if another really special feature ought to be mentioned it was the brilliant *Cyclamens*, *Begonia Gloire de Lorraine*, and double *Primulas* from Messrs. R. P. Ker & Sons. Messrs. Dickson, Ltd., Chester, showed the same *Begonia* and other notable exhibits in their usual style; Jno. Cowan, Ltd., Gateacre had Orchids in charming variety and many fine types; Mr. Barber showed *Begonia Gloire de Lorraine* arranged as pyramids, novel and of great value to all visitors.

Mr. Heaton's varieties in the big class were Mrs. C. H. Payne, Madame Gustave Henri, Master H. Tucker, Vivian Morel, Eva Knowles, Mrs. J. Lewis, Lady Ridgway, Graphic, Mrs. G. W. Palmer, Mons. Remy, Mons. Gruyer, Secrétaire Fierens, Nellie Pockett, Mons. Chenon de Leché, Mons. H. J. Jones, Pride of Exmouth, Mons. Hoste, Madame G. Debrie, Charles Davis, Chatsworth, Edith Tabor, Mrs. H. Weeks, Lady Hanham and Phœbus; incurved: *Duchess of Fife*, Violet Foster, Mrs. N. Molyneux, Perle Dauphinoise, *Chrysanthemiste Bruant*, Madame Ferlat, C. H. Curtis, Lady Isabel, Topaze Orientale, James Agate, Ernest Cannell, Miss Dorothy Foster, Queen of England, Mons. Desblanc, Mrs. C. E. Egan, Ma Perfection, Hanwell Glory, Lucy Kendall, Miss M. A. Haggas, John Salter, Miss M. A. Hills, Robert Petfield, Princess of Wales, and Geo. Haigh. Mr. Townshend was placed second with flowers of extra quality in Japanese, but lacking in incurved. His finest Japanese were Mrs. C. H. Payne, Vivian Morel, E. Molyneux, Mons. Chenon de Leché, and Mrs. H. Weeks; and incurved C. H. Curtis,

Duchess of Fife, and Perle Dauphinoise. Mr. J. Davies, gardener to E. Ellis, Esq., Heswall, was a capital third; and Mr. W. Whittle, gardener to R. G. Allan, Esq., Rosemont, Aigburth, a good fourth.

Four staged eighteen incurved, and a good class they were, the winner being Mr. P. Greene, gardener to Thos. Gee, Esq., Greenhill, Allerton, with splendidly finished blooms of Lady Isabel, Lord Alcester, Chrysanthemist Brunt, Duchess of Fife, Dorothy Foster, Mrs. N. Molyneux, Topaze Orientale, Mrs. C. E. Egan, Ma Perfection, Perle Dauphinoise, James Agate, Mons. Desblanc, Miss Annie Hills, C. H. Curtis, Mrs. R. C. Kingston, W. Tunnington, Queen of England, Ernest Cannell. The second, a pretty stand, went to Mr. C. Osborne, gardener to H. Tate, jun., Esq., Allerton Beeches, Lady Isabel, C. H. Curtis and Leonard Payne being specially fine. Mr. J. Davies, gardener to Lord Trevor, Brynkinalt, Chirk, was a fair third.

In the corresponding class for Japanese Mr. Osborne never staged better, having choice well finished flowers of Graphic, Phoebe, Mrs. C. H. Payne, Pride of Exmouth, W. H. Palmer, Madame Gustave Henry, Lady Hanham, Master H. Tucker, Nellie Pickett, Madame Rosette, Admiral Avellan, Mons. H. J. Jones, Australia, Mrs. H. Weeks, Mons. Pauckoucke, Mons. Cheson de Leché, Mons. Hoste, Madame G. Debris. Mr. J. Davies was a fair second, and Mr. J. Young, gardener to T. G. Williamson, Esq., Otterspool House, third. There were four competitors.

For twelve Japanese Mr. Geo. Osborne, gardener to Dr. Duffus, West Derby, took first honours with Phoebe, Madame G. Debris, and Henry Weeks in capital form, a grand second being found in Mr. E. Baehle, gardener to A. H. Bencke, Esq., Oliva, West Derby. Eight competed.

Mr. Jno. Watson, gardener to Thos. Edwards, Esq., Litherland, won with six, also for six incurved, the class for twelve incurved being worthily won by Mr. W. Neish, gardener to J. H. Ismay, Esq., Cady Manor, Cheshire, out of some six competitors; Mr. Caunce, gardener to E. Winsor, Esq., Balrath, Liverpool, being second. Anemones and reflexed were in beautiful form, Mr. C. Osborne winning both classes. Pompons are certain to have their day again, the four twelves in bunches of three making a charming display, Mr. Caunce winning. The competitors numbered five in the class for those who have not hitherto won a prize, the post of honour falling to Mr. Barber, gardener to Walter Holland, Esq., Carnatic Hall, Mossley Hill. Amateurs keep increasing, Mr. W. Crosby, Halewood, Liverpool, winning both classes.

Groups of Chrysanthemums were an improvement. Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, taking first position, also for the one with foliage interspersed. Trained plants are getting back to their Liverpool form, and a bright array they made. Messrs. W. Wilson, gardener to H. Cunningham, Esq., Gorse Cop, Gateacre; J. Rose, gardener to J. G. Kitchen, Esq., Huyton. A beautiful display was made by the plants grown in 5-inch pots; Mr. Wharton, gardener to John Findlay, Esq., Mavis Court, Sefton Park, scoring somewhat easily. A bright fresh six untrained plants won Mr. W. Bustard, gardener to T. McLelland, Esq., Aigburth, a well-merited prize.

Charming indeed were the 3-feet baskets of miscellaneous plants, and Mr. F. Keighley, gardener to Mrs. Duncan, Prizett, led the way, being closely followed by Mr. J. George, gardener to F. W. Mayor, Esq., Roby. Baskets of Chrysanthemum blooms arranged for effect are rapidly advancing in number; Mr. McFall, gardener to E. C. Leventon, Esq., Oakfield, Roby, came to the front.

Orchids are always a splendid feature here, this show being no exception, and a word of praise is certainly due to Mr. E. R. Finch, gardener to Joseph Smith, Esq., Newstead, Wavertree, for grand plants of *Ansellia africana*, *Cattleya gigas* and *labiata* for three, whilst a lovely plant of *Odontoglossum grande*, carrying twenty-four magnificent flowers, won the single class for Mr. T. Gowen, gardener to J. A. Bartlett, Esq., Mossley Hill, Mr. Bracegirdle winning with a *Cypripedium*. Mr. T. Wilson, gardener to C. H. Williams, Esq., staged *Oncidium varicosum* Rogersi, and *Forbesi* in splendid condition.

Fruit forms almost as important a feature as the cut blooms, the brilliant colour and splendid proportions exciting the greatest possible interest. As usual, the noted Hereford grower, Mr. J. Davies, gardener to W. E. King-King, Esq., Bodenham, secured the leading classes for culinary and dessert varieties of Apples, also for stewing Pears. Local Apple classes were well represented, whilst Mr. Hannegan, gardener to T. Comber, Esq., had a good look in with Pears. A good collection of Apples came from Mr. Doe, gardener to Lord Derby, Knowsley Hall, and were deservedly granted a C.C.

There were three collections of fruit staged, Mr. J. Stitt, gardener to H. A. Bright, Esq., Ashfield, Knotty Ash, winning, Grapes being fine. Grapes were extremely good, and a better pair of Muscat of Alexandria has never been seen in the hall than those staged by Mr. Nield, Horticultural School, Holmes Chapel. Mr. McCole, gardener to J. W. Hughes, Esq., Allerton, won for Alicante, Mr. Reed, gardener to D. Wilson, Esq., Cloughton, with a pretty pair of Barbarossa. For four bunches, Mr. J. Wright, gardener to E. Lord, Esq., was first with Muscat of Alexandria and Black Alicante. Mr. J. Stitt staged perfect bunches of Golden Queen for any other white.

Not a little of the success must be placed to credit of the hardworking stagers, Mr. Foster and Mr. Sadler. Miscellaneous plants were capitally staged by well known growers.

CRESSINGTON SHOW.—The very handsome challenge cup, presented by A. L. Jones, Esq., Oaklands, Aigburth, for twelve incurved and twelve Japanese, has been won for the third and last time by Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., Aigburth.



FRUIT FORCING.

Cucumbers.—Add a little warm soil to the sides of the hillocks or ridges as the roots of the winter fruiting plants show, continuing this with late plantings at short intervals, which is better than supplying a quantity of soil at once. Complete the earthing of the autumn plants, and then feed with short sweetened stable manure at the surface, which will encourage the roots there, and promote steady growth by the nutrition supplied. The ammonia evolved, if not too strong, greatly benefits the foliage. On fine days it is better to turn off the heat at top than have recourse to excessive ventilation, as sun heat has a wonderful effect on the foliage, and the greater the development of the chlorophyll in that the better the plants will thrive in sunless weather. Heat radiated at a high temperature is not good for the foliage, therefore blinds to draw down at night will lessen the need of fire heat and save fuel. They must be used to interfere with light as little as possible.

Melons.—Where the latest fruit is beginning to net, and will be ripe some time next month, the plants need a genial atmosphere to secure the swelling of the fruit. Damp the paths in the morning and early afternoon, admitting a little air in the early part of the forenoon to insure the dissipation of moisture, and induce evaporation from the foliage and fruit. Keep the growths thin, yet allow a fair amount of foliage. Maintain the night temperature at 65°, 70°, to 75° by day, advancing as much as possible by closing at midday from sun heat. Afford liquid manure about twice a week. The plants that set their fruit early in September, from the July sowings, should have all the air possible while maintaining a temperature of 70° to 75°, yet husbanding the sun heat without closing the house, withholding moisture from the atmosphere and water from the roots.

Pines.—Young plants need liberal ventilation at this time of year to prevent a soft attenuated growth; therefore afford fresh air whenever the weather is favourable, and avoid damping, as keeping the houses saturated is more injurious than beneficial. Water will be little required, yet the plants should be examined about every ten days, affording a supply to such as need it and those only, yet extreme dryness is injurious, for any limpness is bad at the expense of the tissues, the cells being more or less impaired for growing activity on a recurrence of favourable conditions for development.

Loose no opportunity in the fruiting department of closing the house at 85°, keeping the night temperature at 70°, or a few degrees less in severe weather. Remove all superfluous suckers, retaining one only, or at most two, if stock be required, on a plant, selecting the most promising for retention. Suckers that appear on successional plants before the fruit is visible should be removed; exceptions are when stock is required, and then the fruit is more or less sacrificed in its favour. Such stock, however, is not desirable, for the plants are liable to have the same proclivities as the parent ones.

At this time of year it is usual to make new beds of fermenting material for the young plants. Tan is the best. In most country places Oak or Beech leaves can be had for the collecting, and this being done whilst they are fairly dry, they form an excellent substitute. Those intended for use later on cannot be too dry, placing them in stacks, forming a span-roof and thatching roughly with any coarse material, as bracken, reeds, coarse hay or straw. In forming beds of leaves they must be put together as firmly as possible, treading well after placing in a layer of leaves evenly shaken out and so on. Thrown in any way the material settles very unevenly, and gives far more trouble afterwards than needed to do the work properly at first.

Vines.—*Earliest Forced in Pots.*—The canes started early in the month respond promptly to the warmth at the roots and the moist genial atmosphere, and will soon be showing signs of growth, when the temperature should be increased to 55° minimum and 65° maximum from fire heat, with 10° more from sun heat, proportionately increasing the atmospheric moisture and keeping the soil healthfully moist. Ventilation will only be required moderately, affording what is needed at the top of the house, or, if side air be admitted, it should be made to pass over the hot-water pipes so as to become warmed, for cold currents of air are very pernicious.

Houses of Thin skinned Grapes.—November weather is very trying to hanging Grapes, often causing them to damp considerably. Well ripened Grapes have the skins thicker and the flesh firmer than indifferently finished, whilst the juices are richer and more sugary. Vines ripening their crops in September are still in foliage, and will bear more moisture at the roots and in the atmosphere than those that had the Grapes ripe in August. Slight heat in the pipes will be required almost constantly to maintain an equable temperature, but this must not be too high or it will cause the berries to shrivel, ventilating freely and early in bright weather so as to prevent moisture being condensed on the berries. The outside borders are best protected from heavy rains, as excessively moist borders affect the Grapes prejudicially, and inside borders should have sufficient moisture to prevent the soil cracking; and if covered with a little clean sweet straw the Grapes will keep better. Covering the border prevents its cracking, and keeps down moisture likely to arise and prove injurious to the Grapes.

THE BEE-KEEPER.

ASPECT OF HIVES.

WHICH is the best aspect for hives is a disputed question. Doubtless the majority of bee-keepers would choose a south or south-east position for preference. Those who have numerous colonies must take other things into consideration, so that their neighbours and the public are not interfered with by the bees, whilst the convenience of manipulating and extracting the honey must not be lost sight of. This we consider of more importance than the actual position of the hives. As we have stated in previous notes, the majority of our stocks face due west. From this direction we often have very high winds, which during the winter months will lower the temperature of the hive several degrees.

We have been experimenting as to what is best to be done under such circumstances, and have found a very simple remedy to prevent the wind from blowing directly into the hives. We may here state the fact of all our hives being placed on a stage about 18 inches from the ground, the stocks being about 3 feet apart. Early in the autumn we turn each hive round until it is facing south. The west wind is thus blowing broadside on to the hive. If necessary they may be moved in any direction, and one hive will protect the other. We advocate an abundance of air for the bees at all seasons, and this is as important in winter as during the bright days of summer.

Shelter of some description is a necessity if bees are expected to be in a forward condition in the spring. In our own case the stocks are well protected from the east, but they are sometimes at a disadvantage in the spring when the sun does not shine on them till near mid-day. Later in the season when a higher temperature prevails, the bees from hives in this position are on the wing as early as those having a south aspect.

We have for several seasons past carefully noted the various colonies placed in different aspects to see if one position was better than another. The only difference we observed was that those bees exposed in a bleak aspect consumed more stores than those more favourably situated. For this reason we recommend the system of turning the hives round at this season, as few bees are on the wing, and they will readily find the entrance to their hive.

OPENING ENTRANCES.

In the above notes we have recommended a warm aspect for the stocks, and some bee-keepers may imagine the same end would be obtained by closing the entrance to the hive during the prevalence of high wind or storms. But such is not the case in practice, as abundance of fresh air is as essential as warmth. Now that all danger of robbing is over, the entrance to the hives should be opened its full width, and the bees will be better for it. We have practised this plan for many years with success.

With the exception of one hive, all have loose floor boards, which is such an advantage at all seasons, that it is surprising how any practical bee-keeper will tolerate hives which have the floor board fastened securely to them. However well made a hive may be, debris and moisture will often be found on the floor board. If the latter is fixed to the hive, it is a difficult matter to clean it. With a loose floor board, however, a few spare boards are required, which may be placed under the hive at any time. This has the effect of keeping the bees healthy and in good condition.

In addition to opening the entrances, we place some thin wedges, about an eighth of an inch in thickness, under the bottom of the hive. This will have the effect of dispelling moisture. Care must be taken that the wedges are not too thick, otherwise the bees will pass through. This will encourage robbing as the season advances, and too much air may be admitted. He found out this plan by accident. During the summer we always wedge up the fronts of all our hives, so that the bees can gain admittance the full width of the floor board. In the autumn we omitted removing the wedges from one of the hives. It remained in this condition till the following spring, when to our surprise we found that this colony was the strongest in our apiary. Since then the majority of our hives are slightly lifted from their floor boards, and remain in that condition throughout the winter.—AN ENGLISH BEE-KEEPER.

INDIAN CORN.—A surprising history is presented in Bulletin No. 57 of the Department of Agriculture, of one of America's greatest contributions to the food supply of the world—Indian Corn. Under the effects of cultivation, the recognised varieties have increased from the few known by the early explorers to more than five hundred. The variations in size are interesting, especially as regards the height of the stalk. This runs from 1½ foot for some kinds of popcorn to 22 feet for a Tennessee variety, and 30 feet or more for varieties grown in the West Indies.

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 2, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

"Bahmias" (E. H.).—We do not know any esculent by this name, nor can we gather what you mean from your letter, as you only say the seed was had from Constantinople and was grown this summer, treated the same as Dwarf Beans; also that you have gathered some nice dishes, and these were very much liked. Possibly you may have received one of the numerous varieties of Haricot Bean. We shall be glad if any of our readers can give information on the subject. If you like to send seeds we will have them tried next season.

Oil Stove in a Greenhouse (Reader).—An oil-stove (properly managed) in a small greenhouse, to keep out frost, will not seriously injure bedding-out plants, such as "Geraniums." Many plants in small structures near towns, and in them, are so preserved, though the better plan is to employ a hot-water apparatus heated by a lamp burning oil, as the heat is more equally diffused by pipes through the house, and at a lower temperature than that contiguous to a stove. Failures occur in oil-stove heating by using common oil, carelessly trimmed wicks, and expecting one stove by excessive heating to do the work of two or three.

Analyses of Kainit and Double Sulphate of Potash and Magnesia (R. A. C.).—Double sulphate of potash and magnesia is a somewhat more concentrated form of potash than kainit, and has the formula $K_2Mg_2SO_4$. It is the best form, in our experience, in which potash can be supplied to the majority of soils, and especially to heavy land. A good quality double sulphate of potash and magnesia contains 48 to 52 per cent. sulphate of potash and some 25 to 30 per cent. of sulphate of magnesia, and under 2½ per cent. of chlorine. An average analysis of this double sulphate is:—

Moisture	...	...	...	...	4.59
Sulphate of potash	...	...	...	...	49.84
Sulphate of magnesia	...	...	...	...	32.86
Muriate (chloride) of soda	...	...	...	...	3.77
Muriate (chloride) of potash	...	...	...	...	0.13
Sulphate of lime	...	...	...	...	5.35
Magnesia	...	...	...	...	0.99
Insoluble substances	...	...	...	...	2.97

100.00

For comparison, we append an analysis of high quality kainit:—

Moisture	...	...	...	...	12.70
Sulphate of potash	...	...	...	...	23.60
Sulphate of magnesia	...	...	...	...	14.50
Chloride of magnesium	...	...	...	...	12.40
Chloride of sodium (common salt)	...	...	...	...	34.60
Sulphate of lime	...	...	...	...	1.70
Insoluble matter	...	...	...	...	0.50

100.00

Now, draw your own conclusions. Common salt, except in light soils, is not favourable for Vines, nor is chloride of magnesium. We do not advise kainit as a substitute for double sulphate of potash and magnesia. In altering the formula as you suggest, you should take three parts dissolved bones, two parts sulphate of potash, and one part sulphate of magnesia. Even then the mixture is not so good in practice as the double sulphate of potash and magnesia with the bone superphosphate as previously advised.

Heating a Propagating House (G. P.).—We have not found the expansion of the 4-inch pipes to cause a leak where entering and leaving the cement trough. The inside of the tank was simply cemented in the usual way, and made quite close about the pipes in the brickwork, as well as on the inner surface. With water in the trough the expansion and contraction is equalised, and no separation takes place between the cement and hot-water pipes—at least, it has not done so in our case.

Fungus from Mushroom Bed (J. H. C.).—The fungus is the fortunately not common *Xylaria pedunculata*. It sometimes occurs on Mushroom beds, though happily we have not had it to combat, and practically on the cultivated Mushroom, *Agaricus campestris* var. *hortensis*. The sclerotoid base of the invader takes possession of the soil, and the mycelial threads spread through the manure, and form a dense stroma or substance between a corky and fleshy consistence—irregular, dirty white, then black. Possibly the spores of the fungus or the mycelium have been in the soil used for earthing the bed. This is the most likely means of introduction. It chiefly occurs on beds that have been made with somewhat old manure, which has not been subjected to the usual fermentation and turning before making up. There does not appear any trace of Mushroom spawn or mycelium, the threads in the manure being exclusively those of the *Xylaria*, which is believed to luxuriate chiefly in unpurified manure. There is nothing for it but to do away with the bed, clearing all out, and begin afresh, using purified material and rather strong turfy loam for earthing the bed. If you do not mind trying an experiment, remove the portion of the bed that contains the *Xylaria*, with all the sclerotoid base, and sprinkle on the loose material 4 ozs. of common salt per square yard, then beat firmly with the back of a spade, and leave for a month or six weeks, when Mushrooms may possibly appear, though by no means certainly.

Woodlice on Mushroom Beds (E. S. I.).—When woodlice get possession of the Mushrooms and harbour beneath the covering they are rather difficult to deal with, and we have no experience of smoking them with either tobacco or nicotine. Possibly the Mushrooms would be tainted, and the woodlice not be reached under the covering of litter. The most wholesale means of destruction is to scatter a little steamed or boiled Potato meal, made rather dry with bran, at the side of the bed formed by the wall or boarding in the evening, and leave there covered over lightly with litter, then early in the morning pour boiling hot water along the baited part. We have cleared houses by this process, repeated from time to time, and if done with care need not materially prejudice the Mushrooms, though some must suffer on the part where the scalding water is used. We do not approve of using poisons where esculents are grown. We have found traps formed of old boards out into lengths of about 2 feet, and placed on each other, that is, two pieces with a little oatmeal sprinkled on the lower one with a pebble between at one end so that the woodlice can get between, feed and congregate, very useful, covering with a little litter, and in the morning brushing the woodlice into a pail of hot water. Mangold Wurzel cut in two parts transversely, scooped out a little, and notched around the edge, inverted on boards and covered with a little litter, are excellent traps, examining them every morning and brushing the woodlice into hot water. Persistence in any of the practices named effects a clearance.

Solanum capsicastrum (Caston).—The cuttings should be taken from the best form of berried plants, selecting the vigorous growing parts when young or not more than half ripe, inserting in sandy soil and placing in a warm propagating frame. Early started cut-back plants give the best cuttings, and afford them by March or earlier if placed in heat during January. A house with a temperature of 55° to 65° will start them. By the middle of April the cuttings will have rooted and the plants placed in small pots and stood near the glass. The old plants that were cut hard back in February will then have broken freely, and some prefer this time for taking the cuttings, rooting them in a warm propagating frame. The old plants then have about half the soil removed from the roots, and are placed again in the same size pots, using a compost of turfy loam with one-fifth of decayed manure and one-seventh of sand. The plants are grown in a house with a gentle warmth, such as that of a vinery at work, and have any shoots pinched that are taking the lead. Aphides must be watched for and destroyed on their first appearance. When the potting is recovered from the plants are gradually hardened and transferred to cold frames towards the end of May, and early in June have abundance of air given them, then placed in the pots in which they are to berry, or the plants may be planted out if a frame can be set apart for them until they are well established. In planting them the base should be firm, so that they can be lifted with good balls. When grown in pots great care is needed in supplying water or the foliage of the plants turns yellow. This does not occur with those planted out under ordinary care, and the plants frequently attain double the size they would in pots. The spring-rooted plants are treated similarly; if grown in pots giving the final shift about the middle of June, 5-inch being large enough. About the middle of September the plants that are well berried and have been planted out may be lifted and placed in suitable pots. With care they lift with fair balls, and may be reduced to suit the pots, being careful not to destroy the fibrous roots. After potting give the plants a thorough watering, stand them behind a north wall for about ten days, when they will have commenced root action, and can be placed in an open position ready for placing in a house with a greenhouse temperature before frosty weather sets in. Plants that are setting berries freely at the early part of September should be left a few weeks longer before they are lifted. A temperature of 40° to 45°, with air freely at and above 50°, suits them. After they have served their purpose keep them rather dry for a time,

out down early in spring, and proceed as already stated. The cause of the branches dying suddenly is commonly an attack by a fungus, *Macrosporium Solani*, at least this parasite appears on the dead tissues, and the mycelial hyphae is found in the living, but diseased, parts. Dusting with fungicide, such as anti-blight, has been found to ward off attacks of this "sudden collapse" fungus.

Manuring Light Soil (C.).—The better practice is to dig the manure in so that its fertilising properties may be diffused through and held by the soil (in part) for the use of the prospective crop. When the manure is fresh it may be spread on the surface in the autumn and left there until the spring, when it can be dug in. We have seen this plan answer well on light land, the manure being sweetened by exposure, and considerably more reduced than when dug in in the early winter. If the manure is partly decayed, as it should be, having been sweated to destroy any contained weed seeds, there is no question of it being best dug into light ground early in the spring; it is a mistake to knock light land too much about, or dig it shortly before required for cropping. It requires solidification for holding plant nutriment, with frequent hoeing during the spring and summer for the retention of moisture.

Moss Litter for Vine Border (W. H.).—In making a Vine border peat moss litter after use in stables could not wisely be used for the lower portion—say next the rough drainage—for it would resolve itself into a close soapy bog soil-like mass, not only sour but impeding the free passage of water through and from the soil. The proper material to employ on the rough drainage is smaller stones, not larger pieces than road metal, and on this a 3-inch layer of old mortar rubbish freed from bits of wood and broken up rather small. If sifted with a quarter-inch sieve, the rough—that remaining in the sieve—should be used for placing on the drainage, and the fine for mixing with the soil for the border. It would not be advisable to use peat moss litter manure for any part of the border unless previously mixed with a tenth part of air-slaked lime. Protect the drainage with tarred grass side downwards before filling in the soil.

Bark of Apple Tree Upheaving and Bursting in Vertical Patches (W. R. Raillem).—We have the sketches of the last year's specimen—the portion of stock as well as scion—and on comparison of them with those now submitted assure you there has not been any misunderstanding. There are the usual bacterial bodies that accompany decay in most dead vegetable tissues, and even the form known as *Micrococcus amylovorus* which, according to the investigations of Professors Burrill and Arthur in the United States of America, occasion Apple and Pear blight—"fire-blast." The disease is certainly a very singular one, but not new to this country, as in grafting some Melrose Apple scions on Paradise stocks we had the malady on both stock and scion thirty years ago, and regarded it then as a form of canker, albeit the fruits of the canker fungus, which appear about the same time as the upheaval and bursting of the bark as by this parasite—namely, November, were not found on the affected parts, nor the mycelial hyphae of it in the bark and cambial layer. The spots range from $\frac{1}{2}$ inch to $1\frac{1}{2}$ inch in length by $\frac{1}{4}$ to $\frac{1}{2}$ inch in breadth and longitudinally of the branches, which are exactly $\frac{1}{4}$ inch in diameter. The bark cracks and peels off lengthwise of the wound and imparts a very ragged appearance by its upheaval, and is quite dead down to the wood, between which, in the cambial layer, the disease spreads in the living tissues. It is not impossible for these to be poisoned by the alteration of juices set up by the bacterial ferment, but then there is not any "fire blight" or "fire blast," as this causes limbs affected by it to become blackened and dead, together with the leaves, flowers or fruits which they bear. There has been a little (not much) exudation of matter on the surface which is stated by Professor Arthur to be dissolved by rain, and the germs set free and washed into the soil, where they multiply in rich mould and grow all the winter, or year after year. Some years ago Mr. J. Hiam sent us some twigs of Pear trees similarly affected in the early part of summer, but we failed to discover the *Micrococcus*, though there may have been some previously having been washed off by the rain. The case is very interesting, as clearly showing a disastrous disease that appears to attack trees of rapid growth more than slow growing. We can only advise cutting out the wounds down to the living bark and dressing them with a paint formed of Stockholm tar thinned to proper consistence for application with a brush, or even not incising the wounds, coating them well with the dressing without smearing it all over the live bark, then you may like to give the ground as far as the roots extend or a little more from the stem outwards a dressing of the late Mr. Tonks' canker-cure mixture, 4 ozs. per square yard and leave the rest to nature. The mixture consists of—

Superphosphate of lime	...	...	...	12 parts.
Nitrate of potash	...	...	...	10 "
Chloride of soda	...	...	...	4 "
Sulphate of magnesia	...	...	...	2 "
Sulphate of iron	...	...	...	1 "
Sulphate of lime	...	...	...	8 "

We carefully examined the trees in Mr. Tonks' garden, with their thousands of canker wounds, and found their cure complete. We had a vigorous young Ribston Pippin Apple tree affected exactly the same as yours, and on precisely similar wood. This tree we undermined and carefully root-pruned. After placing fresh soil, containing lime and wood ashes, round the roots, and mulching in summer, we obtained a "network" of surface roots, the character of the growth was altered, and no further rupturing of the bark appeared. The wounds were cut out and dressed with Stockholm tar, as above advised. Mr. Tonks did not cut out the wounds of his trees, and they healed perfectly. His mixture should act beneficially, whether you root-prune the tree or not.

Disqualifying Chrysanthemums (G. Phillips).—Whatever we may think of the N.C.S. list of too-much-alike varieties, the rule applies to all classes of societies which are in affiliation with the central Society; also all others when indicated in the schedules that the N.C.S. rules shall be followed. In judging independently of these rules, we should not disqualify a stand for the reason you state.

Planting Early Potatoes before Winter (J. A. C. C.).—The practice was strongly advocated many years ago, and was tested by many cultivators, some pronouncing it successful, and others not being satisfied with the results. When the ground is free from slugs, wireworms, and other Potato enemies, and the soil is of a light nature, autumn planting may be practised; but frosts have to be reckoned with, and the sets consequently placed 6 to 8 inches deep. Some persons also spread litter on the surface before severe frost. It is at the best an uncertain plan, answering in some soils and seasons only. Early Potatoes are best prepared by inducing robust sprout growth, as practised from the beginning of the century in the Lincoln and York Potato districts, before planting towards the end of March or earlier in the warm southern parts of the country. You will find the method illustrated on page 114 of Wright's "Primer of Horticulture" (Macmillan), which you can obtain for 1s through a bookseller. Tons of tubers are prepared in boxes. See also Dean's "Primer on Vegetables;" same price and publishers.

Pruning Vines (Amateur Reader).—Pruning on the spur system consists in carrying up one leading shoot to the back of the house, establishing thereon what are termed spurs, or what might, perhaps, be more properly termed snags, from the front to the back, as nearly as possible at measured distances, and as far as may be placed alternately up the stem. About one to every foot is sufficient. These spurs are first developed as side shoots, and in order to insure their due and full development they are produced during about three seasons. There are those who will run a cane up to the back of the house, and fruit it the whole length the next year; but this is not sound practice. A good cane nearly the length of the roof, and about three-quarters of an inch in diameter, may be pruned to one-third the rafter length the first year, another third the second, and the remainder the third year. By this plan, supposing the rafter to be 15 feet long, there will be about five large bunches the first year, ten the second, and fifteen or more the third; and this will be found to tax the powers of the Vine heavily, perhaps too much. By this mode every side shoot will be strongly developed, and consequently a selection may be readily made. The subsequent pruning simply consists in cutting each of these back annually to the last eye at the base of the young side shoot, although some leave another eye.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (C. S.).—Comte de Lamy. (L. M.).—1, Golden Winter Pearmain; 2, Waltham Abbey Seedling; 3, King of the Pippins; 4, London Pippin. (M. A. E.).—1, Greenup's Pippin; 2, Beauty of Kent; 3, Cox's Orange Pippin; 4, Red Ingestrie; 5, Cellini; 6, Winter Greening. (S. W. L.).—1, Lewis's Incomparable; 2, Margil; 3, Cobham. (E. H.).—Huyse's Victoria. (J. A.).—The fruits more resemble Maltese than any variety we know.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of post-matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. C. S.).—*Leucadendron argenteum* (A. J. W.).—*Clerodendron nutans*. (C. J.).—1, *Laurus nobilis*; 2, *Thuopsis dolabrata*; 3, *Retinospora ericoides*; 4, *Cupressus Lobbi*; 5, *Retinospora aliooides*. (Fern Lover).—*Adiantum gracillimum*.

COVENT GARDEN MARKET.—NOVEMBER 15TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3 0	5 0	Grapes, black	0 6	8 0
" Canadian, barrel ...	10 0	15 0	" Muscat	1 0	8 0
" Nova Scotian, barrel	10 0	17 0	Melons each	0 6	1 6
Cobnut, per 100 lb. ...	60 0	70 0	Pears, Californian, case...	6 0	9 0
Lemons, case	14 0	20 0	Pines, St. Michael's, each	1 0	6 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	8 0	4 0	Leeks, bunch	0 8	0 0
Asparagus, green, bundle	4 0	4 6	Lettuce, doz.	0 6	0 10
" giant, bundle ...	15 0	20 0	Mushrooms, lb. ...	1 8	1 6
Beans, Jersey, per lb. ...	0 6	0 8	Mustard and Cress, punnet	0 2	0 0
" French, per lb. ...	0 4	0 5	Onions, bag, about 1 cwt.	4 0	4 6
Beet, Red, doz.	0 6	0 0	Parley, doz. bunches ...	2 0	4 0
Cabbages, per tally ...	7 0	0 0	Potatoes, cwt.	2 0	5 0
Carrots, per doz.	2 0	8 0	Seakale, doz. baskets ...	18 0	21 0
Cauliflowers, doz.	0 9	1 6	Shallots, lb.	0 8	0 0
Celery, per bundle	1 0	1 3	Spinach, per bushel ...	2 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs. ...	2 0	5 0
Endive, doz.	0 9	1 3	Turnips, bunch	0 8	6 4
Herbs, bunch	0 2	0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8 0	10 0	Lilac, white, bundle ...	4 0	7 6
Asparagus, Fern, bunch...	2 0	2 6	Maidenhair Fern, doz.		
Carnations, 12 blooms ...	2 6	3 6	bunchs.	6 0	8 0
Cattleyas, per doz.	10 0	12 0	Marguerites, doz. bunchs.	3 0	4 0
Chrysanthemums, white			Mignionette, doz. bunches	6 0	8 0
doz. blooms	6 0	9 0	Narcissus, white, doz. bun.	2 0	6 0
" yellow doz. blooms	5 0	8 0	Odontoglossums	5 0	7 6
" bunches var.	0 6	1 6	Pelargoniums, doz. bunchs	8 0	12 0
Eucharis, doz.	6 0	8 0	Roses (indoor), doz. ...	6 0	8 0
Gardenias, doz.	4 0	6 0	" Red, doz.	6 0	8 0
Geranium, scarlet, doz.			" Safrano, packet ...	1 6	2 6
bunchs.	6 0	12 0	" Tea, white, doz. ...	3 6	6 0
Lilium Harrisii, 12 blooms	12 0	15 0	" Yellow, doz. (Perles)	5 0	7 6
" lancifolium album ...	8 6	4 6	Smilax, bunch	8 6	5 6
" rubrum	8 6	4 6	Violets, Parma, bunch ...	1 6	5 0
" longiflorum, 12 blooms	8 0	12 0	" dark, French, doz.	1 6	3 6
Lily of the Valley, 12			" " English, doz.	1 6	3 6
sprays	18 0	24 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vite, var., doz. ...	6 0	8 0	Ferns small, 100	4 0	8 0
Aspidistra, doz.	18 0	36 0	Ficus elastica, each ...	1 6	7 6
Aspidistra, specimen ...	15 0	20 0	Foliage plants, var., each	1 0	5 6
Chrysanthemums, per doz.	6 0	12 0	Lycopodium, doz.	3 0	6 0
Orotons, doz.	18 0	30 0	Marguerite Daisy, doz. ...	10 0	18 0
Dracena, var., doz.	12 0	30 0	Myrtles, doz.	6 0	9 0
Dracena viridis, doz. ...	9 0	18 0	Palms, in var., each ...	1 0	15 0
Erica various, doz.	80 0	60 0	" specimen	21 0	68 0
Euconymus, var., doz. ...	6 0	18 0	Salvia, scarlet, doz. ...	6 0	12 0
Evergreens, var., doz. ...	4 0	18 0	Solanums, per doz.	9 0	18 0
Ferns, var., doz.	4 0	18 0			



ODDS AND ENDS.

THERE are always subjects of interest cropping up, and while many of them are too small to provide a paper, yet several of them grouped together may, we hope, prove acceptable to our readers.

There is one species of annoyance to which farmers are much subjected to in the autumn—trespass; it is then that the fields and hedges are most inviting to illegal despoilers. Certainly at other times of the year there is the nuisance and vexation which arises from those ill-conditioned people who are always on the look-out for a "short cut." No matter how immaterial the distance gained by the "short cut" they will try for it. No fence, however strong, turns them; notice boards are as dead letters. Not only do they make exceedingly ugly tracks across arable fields, but any loose stick of fencing—or, for that matter, unloose—eventually finds its way into the trespasser's grate or under his oven. As for hoping for help in the matter from the rural police—well, they are too sparsely scattered to be of much use in the outlying fields, and it is really men who should know better who are the great aggressors.

The formation of a new track should be stopped at once. Years

roll by so quickly, and then the astonished owner wakes to find the footpath, by lapse of time, is a public one, and he is helpless. We knew of a case of this sort lately, where the path had been made by an odd labourer going to his work and by the gamekeeper on his beat. Now, alas! it is used by ironstone miners, who gaily and daily pass through one of the best coverts on the estate. The ironstone mining is a new industry, the men are not native born, and have a strong penchant for hare, rabbit, or winged game. In this case, though the farmer strongly objects to strangers through his home fields, the greater annoyance falls on the owner, and there will be a constant danger of friction between his keepers and the stranger within his borders.

This autumn particularly has been a trying one to many a farmer. The crops of Brambles and Mushrooms have been simply enormous, but the legal owner has not benefited much. There appears to be a feeling, even among quite respectable people, that a Mushroom field is common property—that you may go in, gather what you like, either for sale or immediate consumption, none letting or hindering you. We have seen it done, and have laughed at the irony of it. Strangers have come in and cleared our fields, and left us a basketful, with compliments! One great and serious fault these Mushroom gatherers have, and it is that they rarely, if ever, close a gate; the consequence is, strayed cattle in every direction. The Bramble gatherers are an equal nuisance; they come in battalions—not only the village people proper, but the scum of the nearest town. They too leave gates open, make gaps wherever they list, maul and destroy the hedges, and give you plenty of “sauce” if you dare remonstrate.

There are many people, too, who do not grow their own Potatoes and Turnips for the pot, but they appear always to have plenty; indeed, we know one woman (gardenless) who was in the habit of retailing Potatoes to her neighbours. This, of course, comes under the head of petty larceny; but trespass was committed in the first instance. Of trespass in pursuit of game we believe there is a great deal, but that again is more the landlord's concern.

As to the Mushroom nuisance, by planting spawn in the grass fields the crop comes under the head of a cultivated one, and depredators (if caught) can be dealt with by the magistrates. We find the Chambers of Staffordshire and Warwick are combining to call upon Parliament to remodel the present law of trespass; other Chambers might do worse than follow their example. We know of one farmer in the neighbourhood of a large town who gave up his holding, which had been in the family for generations, rather than suffer constant irritation from trespasses he was quite unable to cope with.

There is another question that is calling for attention. A short anecdote is all that is necessary. A wholesale dealer in foreign (frozen) meat was sojourning at the seaside. One of the butchers was a large customer of his, though personally they were strangers. The dealer called at the shop for the purpose of buying frozen meat, and was most indignantly dismissed with the statement that none but best English-fed was ever sold there.

Is it not time there was some sort of certificate or form of registration required? It is hardly fair that the public should be robbed in so barefaced a manner. It is quite right that foreign meat should be sold, many a poor family in that way gets animal food who otherwise would not. The law steps in to prevent adulteration, but that Act does not touch substitution.

We are promised some speedy legislation *re* accidental injury to farm workers. That such a measure would be beneficial there is no doubt. It is sad to think of a man disabled, perhaps early in life, with no prospect but the workhouse. Even in case of temporary illness the finances must be severely strained, though a man may be a member of a good sound club.

The farmer has quite enough to do to provide wages for the workers. He cannot, if he would, maintain a man for any length of time, and therefore he will have to secure himself against possible loss by insurance. If, as is stated, insurance can be effected at the

rate of 3s. 6d. per cent., the farmer will be the first to agree in the desirability of any such act. It is always painful to see suffering we cannot alleviate, and it is doubly so if the suffering has been incurred in our service.

What chance have we for any compensation for crops burned by sparks from a passing locomotive (railway)? None if the company can prove they use a certain spark guard and did not show negligence. This is a most comforting doctrine for the owner of destroyed crops; and how is the negligence to be proved? Road locomotives are under much more stringent rule, but we think what is sauce for the goose should be sauce for the gander.

Muzzling appears to have fulfilled the object for which it was introduced. May we happily keep clear of rabies for an indefinite period. Dogs and their owners are alike grateful to find the order revoked.

WORK ON THE HOME FARM.

We have had further heavy rains, and the weather has been more like April than November. Pastures have freshened wonderfully, and farmers have been enabled to defer the evil day of bringing up the cattle for another week or two. In fact holding stock may be kept out until we have some really wintry weather. At any rate the prospects for winter keep are much improved, and this is already shown by improvement in the price of store sheep. The rise is not great, but there is much more inclination to buy.

A large breadth of Wheat is already above ground, and is looking really beautiful; it will make a good start before winter sets in.

The regular work of autumn being almost completed, the spare hands are set to hedging and fence repairing. On a home farm there is seldom any difficulty as to a suitable supply of fencing materials, but we often hear bitter complaints from farmers as to the almost impossibility of obtaining rough timber at a reasonable rate. In many instances they are obliged to buy foreign stuff from the seaports, and pay heavy railway freight on it, whilst there may be hundreds of acres of woodland in their own parish. This is particularly the case where the fall of timber is let by tender to large timber merchants, for they usually cart almost everything away that is worth anything at all, leaving nothing but firewood, and when applied to by a farmer, either refuse to sell at all or at a prohibitive price.

On some estates the timber is sold in small lots by auction at the tree root, and this gives the farmer a better chance, he being generally the best customer, giving a better price for the small stuff than the timber merchant does for the well grown trees. Now that there is such an outcry in the hunting field against barbed wire, masters of hounds should use their influence with landlords to give their tenants better and cheaper supplies of fencing timber. Then there will be less excuse for the increasing use of what we have heard a labourer call “Barbara wire.”

We fear that few Swedes will be worth storing, but where there is any size at all, and a desire to make them safe against frost, we should recommend that they be pulled and thrown into heaps as they are, with both tops and roots uncut; then well covered with soil they will keep all right. Discretion must be used by the men not to put in the heap any cankered or unsound roots.

“PINK-EYE” AMONGST THE GREYS.—“Pink-eye” has broken out amongst the horses of the Scots Greys stationed at Edinburgh. The disease is of a mild type, and the number of horses affected is not, so far, very large; but as the regiment, like so many others, is under orders for the Cape, the outbreak, to say the least of it, is not very opportune. Already a detachment of the regiment has gone to Aldershot in quest of fresh horses. The disease is believed to have been introduced by horses sent recently from York, to take the place of those cast as unfit for active service against the Boers. The disease is also said to be rather prevalent in Ayrshire, and it is known that some prominent breeders have sustained serious losses through this cause.—(“North British Agriculturist.”)

THE OBJECTION TO SUDDEN CHANGES IN FOOD RATIONS.—When cattle are changed at all suddenly from one description of food to another they almost invariably suffer very sensibly in condition, even though such change may be from a good to a better ration. An experiment was specially conducted some time ago with the object of testing whether the commonly accepted ideas on this subject were not exaggerated, and it was found that in every case in which a change in food suddenly took place the animals were adversely affected thereby. When a cow is fed on a certain ration for a considerable time, her stomach naturally becomes accustomed to a certain bulk or consistency in her food, so that when the change is made, except it is very gradually brought about, there is a tendency on the part of the system to become disarranged, and several weeks frequently elapse ere the animals begin to make as what may be described as normal progress on the new food. It is because of this that it is so essential to exercise every care at this season of the year in changing animals which have been kept on grass all the winter to indoor rations, in which their feed consists largely of dry and much more concentrated foods.—(“Irish Farmers' Gazette.”)



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SHRUBS AND SHRUBBERIES.

MANY years ago there was undoubtedly too great a tendency to plant large masses of such common shrubs as Laurel, Box, and Yew instead of a greater variety of more showy evergreens. One reason for the practice, perhaps, was that the choicer or brighter coloured kinds were not so plentiful as now, but I fancy a still stronger reason may be found in the fact that strong growing forest trees were often planted when laying out the ornamental grounds around the "stately homes of England."

In parks or woods noble specimens of Elm, Beech, Oak, and Chestnut are in the right place for giving boldness and grandeur to the landscape as well as supplying timber, but in the garden proper they are not needed except as isolated specimens without dwarf shrubs beneath. When forest trees are planted in shrubberies, unless freely thinned when necessary, they soon ruin shrubs beneath except the most common kinds, and as the choicer ones die out their places must of necessity be filled with those which will linger on beneath a dense shade and in soil from which the giants appropriate the greater share of nourishment. The mistakes of past generations cannot well be obviated now, but in cases in which there is plenty of room for extension a belt of mixed shrubs might with advantage often be planted in front of an old shrubbery, and thus give bright and varied beauty to a somewhat sombre background.

In modern gardens fortunately we do not often see the above mistakes repeated, as Conifers are freely employed to give boldness, and the charms of flowering shrubs are also fully recognised. Our lists of beautiful ornamental shrubs have, too, been greatly extended during the last twenty years; there is, therefore, no excuse for still following in the old groove. At this season a few notes enumerating some of the many good things waiting for "the planter's hand" will, I trust, be helpful to some who are pondering long and deeply over a bulky catalogue.

A few years ago a spirited discussion was carried on in the pages of a contemporary gardening paper

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about the "Abuse of Variegated Plants and Shrubs in Gardens." This seemed at least to show that in gardening, as in so many other walks of life, there is still a pronounced tendency to go from one extreme to another. The sombre hues presented by our shrubberies caused planters to make heroic attempts to brighten them by the introduction of shrubs of brighter colour. These were perhaps not always employed with good taste and discrimination, but they at least gave pleasant variety, and invested with ever-changing interest many monotonously dreary spots. We do not want to see the ornamental grounds of either large or small gardens dotted in an unmeaning way by variegated shrubs, but masses of them at well chosen points, or isolated specimens on lawns, give the needed touch of brightness and relief to the many shades of greenery around. As a nation we have learned to appreciate the cheering influence of being surrounded by bright and varied colours far more than did our ancestors, and further education in the art of colour blending will in time teach us how to dispose the wealth of colour at command to the best advantage.

The well-known *Aucuba japonica* is a handsome shrub, which might with advantage be more freely planted, as it grows freely, is easily kept within bounds, and is as attractive in appearance as many *Crotons*. If a male plant or two is planted near, bright scarlet berries are also plentifully produced. To grow it to perfection a deep loamy soil is needed, and a situation open to full sunshine. It is not, however, unsuitable for planting on a sunny bank, but on very dry seasons it then suffers through drought, and the leaves produced are small, but highly coloured.

The Golden Privet is one of the brightest of evergreen shrubs; it grows freely, is quite hardy, and forms a beautiful clump for a lawn or the foreground of a shrubbery. Hedges of this bright Privet are seen in London suburban gardens; it is also grown as standards, which are effective in appropriate positions. The Golden Yew makes a fine hedge, infinitely more attractive than the green variety. Masses of Golden Yew are also wonderfully attractive in spring, and are shown up to advantage against a background of common Yew. The true English Yew does not seem plentiful; it throws out long branches, and forms a wavy, graceful outline, whereas the type of Yew generally met with grows into a more compact bush, pretty enough in a young state, but not nearly so graceful in appearance when grown to a large size as some occasionally seen in old gardens. Two beautiful *Thuias* (*Arbor Vitæ*) are the well-known *aurea* and *Vervaeana*; the latter is of a fine bronzy colour. Being formal growing shrubs they are not suitable for massing, but are excellent for planting singly on lawns, or in prominent positions in borders and flower beds, where full exposure insures good colour. The golden and silvery *Cupressus*, *Retinospora aurea*, *Thuopsis*, golden and silver variegated, are each suitable for similar positions.

Variegated *Hollies*, though expensive and very slow growing, should find a place in all gardens of pretension, as they present such a cheerful appearance throughout the autumn and winter. As a rule they ought to be planted as isolated specimens, where nothing will interfere with their uniform development. Where, however, expense is not a great consideration, a large bed should be filled with *Hollies* of various sizes planted 6 feet apart, with a groundwork formed of small plants of *Retinosporas* and an edging of *Erica carnea*. A novel and striking arrangement is thus produced, which is attractive at all seasons.

On dry sunny banks, where there is an ample background of greenery, the Golden and Silver Elders present a beautiful picture in the spring months. They are, moreover, so easily established. I have frequently covered bare spots by simply sticking strong shoots and branches deeply into the soil during the autumn months. *Acer Negundo variegata* and *Cornus mascula variegata* are two sterling deciduous shrubs with which to brighten the sombre hues of ancient shrubberies. The former being by far the stronger grower is suitable for planting in standard form; the latter makes a good bush or a neat standard, but should always be given a position in the foreground of a shrubbery. *Prunus pissardi*, with its coppery-red leaves, if planted

at a short distance from an *Acer*, or near a Golden Elder, is shown to advantage. The Copper Beech forms a handsome stately tree for planting on an extensive lawn, near a lake, or among a belt of trees skirting a park. The many comparatively new forms of Japanese Maples and Oaks with coloured leaves are rich in attractive and peculiar shades of colour, as well as quaint and elegantly formed leaves.

Enough has, I think, been written to show that there is a wealth of material at our command for making our lawns and shrubberies attractive at all seasons by the aid of trees and shrubs with variously coloured leaves, but, to complete the picture, flowering shrubs in variety are needed. These I hope to treat of in due time.—H. D.

NOTES ON APPLES.

WHICH IS THE BEST LATE APPLE?

Is a question I have been asked a number of times lately; but it is one to which I do not feel able to give a decided answer. Pearson's Newton Wonder with me is really a first-class Apple. It is an excellent grower, comes into bearing early, and the blossom appears to be hardy for resisting late spring frosts. The fruit attains a good size, and in appearance leaves nothing to be desired, while it keeps in good condition with me longer than Bramley's Seedling and some other late varieties, and its flavour is excellent. In the spring of 1892 I grafted two old trees, and on October 13th this year I gathered 26 stones of fruit from them, and there would have been more but for the effects of boisterous winds. It is a pleasure to show the handsome fruits to anyone who favours me with a call. Last March I grafted eight other old trees with it, and the average growth from the grafts is over 4 feet. Does any reader know an Apple called Perkins' A1? If so, I should esteem it a favour if he would give his experience of it as a cropper, keeper, and cooking quality.—T. WELCH, *The Gardens, Grove Hall, Retford*.

SPLITTING OF APPLES.

THE splitting of the skin and the flesh of Apples is not a very common occurrence, so far as my experience goes, but this season two instances have occurred with me. The varieties were Golden Noble and another very similar to it as regards colour and the texture of the rind. When exposed in the open market the rind of the fruits was covered with an oily substance, but when kept in a darkened room for few days a few of the fruits were found to be ruptured both in a lateral and longitudinal direction, right to the core, in wide gashes, and the texture of the flesh became quite juiceless and mealy, with no apparent change in the colour, even after several days kept under the same conditions, excepting a tinge to red encircling the fruit adjoining the skin, while also the unctuous matter previously alluded to had disappeared. The room in which the fruit was kept is a comparatively cool and dry one, consequently the cracking in question can hardly be considered as arising from endosmose, similar to that phenomenon affecting thin-skinned Grapes. The country peasants call such affected Apples "fuzz-balls." Perhaps some of your correspondents may be able to give a true explanation of the matter. What does Mr. Abbey say?—W. G.

COLOUR IN APPLES.

CERTAINLY colour in Apples has this season been singularly bright, and for the home counties no one has shown more brilliant colour on fruit than Mr. C. Herrin did recently from Dropmore. *Mère de Ménage*, Bramley's Seedling, Baumann's Red, Gascoyne's Scarlet, and many others gave wonderful colour, Bramley's richer than any of the variety I had ever seen, yet these fruits were grown on ordinary garden bush trees and had no chemical applications made to them. The colour was entirely the product of the season.

What is the cause of this remarkable colour development? Doubtless the same causes which paint the decaying tree foliage in such wonderful hues, paint the skins of the fruits, for the colouration is only on the surface. But sunshine alternating with showers and brisk winds seem to be active agents. Colour is a valuable market commodity without doubt, and, as Mr. Molynaux has shown, greatly helps to render Worcester Pearmain such a capital market Apple. But we seem to get this rich colour very much after all at the expense of flavour and of keeping properties. High-coloured fruits of any variety rarely or never have that same excellent flavour that good developed but less brilliant fruits have. Even very richly coloured Cox's Orange do not give such high flavour as do others even from the same tree but less exposed to the sun.

Then, how few highly coloured fruits keep well. Certainly our best keepers are those having green coats or russety ones. The chief exception is found in Striped Beefing, but even the fruits of that

late variety most highly coloured ripen soonest. It does seem as if the creation of the colouration absorbed some of the richer juices from the fruits, and left the flesh more resembling the texture of that of the high-coloured American Apples.—A. D.

THE CULTURE OF MUSHROOMS.

A SUPPLY of Mushrooms is always appreciated, especially in the winter and spring months, when they cannot be obtained from fields and pastures. Mushrooms form a wholesome and nourishing dish, and are not difficult to grow, provided a suitable structure is available, where the manure may be prepared and the beds formed. Mushrooms can be grown in an unheated shed or outbuilding, but it is a great convenience if one or two beds can be formed in a slightly heated structure, so that a supply may be insured during the coldest weather when the other beds are not in bearing. The beds are not productive below a certain temperature, and a spell of cold weather will arrest the development of the Mushrooms.

Horse droppings intermixed with a little short straw are the chief materials for forming beds, and the collection and preparation of the manure are the largest items in the cultivation of the nutritious esculent. The horse manure should be obtained from stables where the animals are fed exclusively on hard food, such as corn and hay, as this is the best for the Mushroom cultivator. In collecting the manure, if it is not possible to obtain a good bulk in a few days, the manure as it is brought in should be spread thinly to prevent undue heating, and be turned occasionally for maintaining it sweet and fresh. When enough manure is obtained it ought to be thrown together in a heap for the purpose of heating. A fair sized bed will be 8 feet by 4. Four feet is a convenient width, but beds may be made any length, and the depth should be a foot.

The manure, having been thrown together in a conical heap, may lie there for two or three days, at the end of which time it will in the centre be found to be very hot. The heap must then be completely turned, placing the outside in the centre, and the centre outside. This will give the whole of the manure a chance of undergoing fermentation, which is necessary in order that the fierce heat may be drawn out. Carry out this interchanging process several times at intervals of two or three days. The manure will then be in a fit condition for building a bed. Its condition should be sweet and moist. This can be ascertained by taking up a little of the manure and squeezing it. If in the right condition as regards moisture, it will press closely together on being squeezed, but when the pressure of the hand is removed fall apart again, in fact no moisture can be pressed out of it.

In the formation of the bed, the manure should be placed in layers, each trodden firmly down. If the bed is made a foot in thickness this will be ample. The question, When is the best time to insert the spawn? is now a matter for consideration. In many cases it may be inserted immediately the bed is formed. It might happen, however, that the heat of the bed would rise and thus destroy it, but this is not so likely to occur if the material is placed together firmly. The temperature most suitable for the insertion of the spawn is 85°, and should the heat be likely to rise after the bed is built, it is best to wait until the temperature has fallen to about 90° before inserting the spawn.

Good brick spawn must be chosen in which the white thread-like mycelium can be seen running in various directions through the cake. This is good and active spawn, which will soon permeate into the manure. Break each brick into pieces not less than the size of large Walnuts, and bury just below the surface. Press the manure well round each piece, making the surface level and firm. An inch of good loam may then be spread over the bed, levelled and made smooth with the back of spade. Even moisture of the soil should be maintained, and this can best be accomplished by covering the bed with damp straw or hay, which will prevent evaporation and exclude light.

In a month or six weeks the first Mushrooms will appear, and the bed under favourable conditions will continue to be productive for some time. As the soil on the surface becomes dry, a gentle watering with tepid water maintains the requisite moisture, but the bed ought to be re-covered with hay. After being productive for a satisfactory period and there are signs of a decrease, a little salt in the water when again moistening the bed assists the further production of Mushrooms. Should the manure prepared be rather wetter than desirable, it is an excellent plan to add a proportion of strawy litter of a short character, or dry loamy soil, which will keep the material from binding too closely, thus promoting a proper fermentation. To insure a continuous supply of Mushrooms a bed ought to be made and spawned every month.

Where plenty of manure is at command in a suitable condition the culture of Mushrooms entirely outdoors is not a difficult matter. To form, however, a fairly profitable outdoor bed, two cartloads of manure ought to be employed. An outdoor bed is best made on the ridge

system, as this form insures a bed that will prove to be successful. The method of preparing the manure is the same as for beds indoors, but if the manure is dealt with outdoors it must be covered from wet. For this purpose there is nothing better than corrugated iron sheeting, which is in portable lengths and readily placed on and off. An open shed is very convenient, but not always available for the preparation. Comparatively fresh manure is obtainable at tramway or bus stables, and often needs little if any preparation, but may be built into a bed at once.

In forming a bed on the ridge system mark out a space 3 feet wide, the length may be any distance according to the amount of manure. Spread the manure within the space marked, and gradually build up to the height of 2½ feet, making the manure firm with the fork as it is placed on in layers. The bed when finished may be of a convex shaped top. The spawn is inserted about 2 inches deep, and the same distance apart all over the bed, after which the soil is placed on in rather a damp state, so that it will adhere closely all over when patted down flat with the spade. Cover the bed as soon as made with a good thickness of litter. This excludes wet and retains moisture and warmth.

During extra cold weather additional covering may be placed on. The extension of the beds can be made whenever sufficient manure is available for forming a substantial addition.—E. D. S.

PREPARING SOIL FOR VEGETABLES.

ONIONS.

THE crop of Onions is regarded as a very important one by the majority of gardeners and all who grow vegetables. No trouble is considered too much in the preparation of the soil and the addition of material enriching the ground. The present time is undoubtedly the best season for the preliminary work in the cultivation of the Onion crop, whether the soil be of a light or a heavy character. The chief operation, which improves all kinds of soils, is increasing the depth by loosening the bottom spit or subsoil. In gardens where deep cultivation has been practised more or less for some years the best course to pursue in the treatment of the soil is to trench the ground intended for the Onion crop.

There are two methods of trenching. One is ordinary trenching, by which two spits of soil are reversed in position, the top spit being placed in the bottom of a trench first prepared, and the second spit on top of the first. This acts well when the soil is good to the depth indicated, but it is frequently the case that the bottom spit or subsoil is not of a suitable character. Recourse must then be had to the other method of trenching, known as bastard trenching. The two spits of soil are moved and well broken up, but they are not altered in position, the top spit still remaining the top layer. The second spit should be well manured with rich manure, vegetable matter, or anything that will improve it. Apart from manuring, deep cultivation is an important factor in the cultivation of the Onion, because the roots go a long way down in the soil in the search of moisture in dry periods, and they are more likely to obtain it in soil which has undergone some preparation by which roots can enter freely.

For rich kitchen garden soil, full of humic matter produced by free manuring during a number of years, the soil will be materially improved by ordinary trenching, but for soil which has only been treated in a shallow manner the best method is to bastard trench, treating the bottom spit very liberally, and also well breaking up the top.

Heavy soil may be left rather rough for the frost and wind to act upon it during the time intervening between now and the sowing or planting period. Frost and drying winds have an ameliorating and pulverising effect on the soil particles, causing them to fall into a powdery state which cannot fail to be of great advantage to the growth of the seed or the plants. Having said so much about the importance of deep culture and the benefit derived by the crop, it is advisable to refer to the employment of manure in enriching the bulk. Strong manures, such as pig manure, fowl manure, and cow manure, may be applied now and well worked into the soil, or placed between the two spits. The top spit will require working over again in February before sowing, when a dressing of some artificial manure may be applied. Superphosphate and kainit may be scattered on the soil about a fortnight before sowing, also soot and salt with burnt refuse or wood ashes are found serviceable, well working these into the soil. Further dressings of chemical manures can be applied during growth, also liquid manures. Light dressings of soot are beneficial to Onions, stimulating growth and keeping away many enemies.

Serviceable crops of Onions may be grown without elaborate manuring, but heavy crops of fine bulbs cannot be obtained without a moist, rich, deep soil. The large bulbs for exhibition are grown on ground well prepared and enriched, but the seed is usually sown in boxes in January and the young Onions transplanted.—E. BARROW.



DENDROBIUM TREACHERIANUM.

No, "Young Orchidist," this plant is not commonly seen at horticultural exhibitions. It has on occasions been shown by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, who was some years ago accorded a first class certificate for a splendid plant of it at one of the Drill Hall meetings of the Royal Horticultural Society. The particular specimen referred to was bearing three spikes of flowers carrying ten, seven, and five blooms respectively. The colour of the sepals, petals, and the front portion of the lip is bright rose shading to crimson towards the throat and side lobes. Several flowers on the plant shown were fully expanded; while others were still in the bud stage. The illustration (fig. 82, page 459) will convey to our correspondent and other interested readers the form of the flowers and their method of production.

ORCHID SALE AT MANCHESTER

MR. J. BARKER writes:—"Kindly make correction in the next issue of the Journal. In the report of sale of Orchids at Manchester, page 428, *Cypripedium callosum* Sander & Sons reads, 'with five growths, 75 guineas.' This sum should be 175 guineas.

CYPRIPIEDUM NIVEUM.

This is a lovely little Orchid, and one of the most charming of the *Cypripediums*. The pretty white flowers are well set up by the fine handsome foliage, and flowering at this dull time it is exceptionally welcome. Most growers have found a few pieces of limestone used in the compost or for drainage has a good effect upon the roots, and though many fine plants are grown without it, the lime is certainly an advantage. Tufa, such as is used in Derbyshire for road mending, is also recommended for the purpose, and the porosity of the material should be an advantage.

PHALANOPSIS.

There is not much growth in the Moth Orchids now, and it must be the aim of the grower to give just sufficient moisture at the roots to induce a healthy condition without surfeiting them. It is far easier to give too much than too little, and a plant that really needs water is not so much injured by going a day without it as is one already moist by being again watered; and much depends, too, upon the variety. Stout growers can put up with a little neglect, or on occasion are not particularly injured by an extra watering, but when we come to small growers of weak constitution, such for instance as *P. Lowi*, there is not very much to come and go on, and a deal of care is needed.

Atmospheric moisture and ventilation also require careful manipulation. A close moist house keeps the plants in a soft green state, and is wrong, while, on the other hand, draughts of cold, dry air, though the plants may not look any the worse now, will assuredly be followed by the loss of foliage later on. Endeavour in all cases, then, to maintain a suitable atmosphere that, without being in the least exciting to the plants, will insure them against being checked.

CATTLEYA BOWRINGIANA LILACINA.

One misses the fine colouring of the type in this pretty variety, but the pale mauve or lilac is equally beautiful. It is not common in cultivation, but one occasionally comes across fine plants. Many growers, especially within the metropolitan area, are in the habit of growing this species in ample warmth, with a view to getting the flowers early before the worst of the fogs; and it is a very good plan, for the growth is extremely free. The only thing is that growers in the country do not require the flowers early, but they are very beautiful whenever they come.—H. R. R.

LÆLIO-CATTLEYA EXONIENSIS.

Although one of the first hybrid Cattleyas raised in this country, it is still amongst the rarest, and one which is often seen dwindling instead of thriving. When seen in the latter condition it can scarcely be surpassed. This plant with me succeeds admirably under the treatment recommended for *C. aurea* (page 341), and is one of those Orchids that demand careful watering at all times. No plant loses its roots quicker if watered excessively, and no Cattleya will thrive quicker should the supply be insufficient. The whole difference between success and failure lies in these little matters, and I would urge all enthusiastic cultivators who do not reap the success their labours deserve, to carefully study the plants, and the response to sound treatment will be prompt and lasting.

CATTLEYA MARONI.

This beautiful hybrid between *C. aurea* and *C. velutina* improves with extended culture and increased strength, the flowers being much larger and brighter in colour. The plant is a good grower in a warm intermediate house, and appears when in active growth to delight in an abundant supply of water. The flowers, which are produced from the top of the young pseudo-bulbs three or four together, are of a peculiar deep fawn colour, the lip being of a richer shade heavily suffused with lines of a deep purple. It is a most uncommon flower, and deserves a place in any collection of Cattleyas. It is intermediate as regards size between its parents, but few persons would imagine *C. velutina* producing such a beautiful or delightful Orchid. It was raised on the Continent by the hybridiser whose name it bears.—J. BARKER, *Hessle*.

PEAR MARGUERITE MARILLAT.

THIS Pear, which is of French origin, was introduced into this country some years ago, and is now sufficiently well known to be regarded as one of the most valuable varieties for September and October use. At a meeting of the Royal Horticultural Society held on October 10th Mr. Geo. Woodward sent from Barham Court Gardens, near Maidstone, a collection of fruits including Marguerite Marillat, to which the Fruit Committee recommended a first-class certificate. One of these specimens is represented in the illustration (fig. 80), and this particular fruit weighed 18½ ozs. In appearance this Pear is decidedly handsome. The colour is clear lemon yellow with very numerous pale brown spots of russet and occasional patches of similar colour. The deeply set, medium sized eye has stout incurving segments, and is surrounded by a large patch of light brown russet. The very stout stalk, about three-quarters of an inch long, is set on the side of the fruit, and its fleshy base is encircled with thin russet. The cream coloured flesh is firm, with a faint suspicion of grittiness, and a slightly musky aroma. It is very juicy and rich in flavour. Marguerite Marillat has grown rapidly in public esteem, and its popularity will increase immensely as its undoubted merits become fully recognised.

LONDON GARDENS OVER FIFTY YEARS.

No. 15.

WE cannot expect, at the close of the nineteenth century, to find any old inhabitant of London who could remember running about Marylebone Fields when he was a boy. But I have spoken to those who were acquainted with that locality before the Regent's Park was formed, and the numerous streets or terraces around, who recollected the manor house and the noted gardens, though they had not seen St. John's Wood as a wood. This, no doubt, was a part of the original park which, in the reign of George III., became Marylebone Fields, being mostly thrown open to the public. But the old name lingers; yet few connect it with St. Mary-on-the-Bourne, the church beside a memorable streamlet long dried up. At one time folks not only called but wrote it "Marrowbone," our forefathers being easy in the matter of spelling. The Regent's Canal flows along the edge of the present park in place of the old brook, and there is a large piece of ornamental water; the ground might be regarded as a valley, sheltered by Primrose Hill and the northern heights, on the east and west are undulations, and an incline to the south. Really a capital spot, as we may see, for horticultural purposes.

The Regent's Park of 1899 looks decidedly different from the park of 1849, the change on the whole an improvement; for one thing, trees that were only juveniles then have attained now to a goodly size, some rubbish has been removed, more trees or shrubs planted, and flower beds formed. That the park was not opened to the public till 1838, about sixty years ago, seems to be the fact; 'tis certain, however, that people had access to Jenkins' nursery in the central part, for he must have commenced his business long before; indeed, when Nash gave up his scheme of building there a palace for George IV., Thomas Jenkins made the best of his 18 acres of stiff cold clay, imperfectly drained, planting ornamental as well as fruit trees, amongst them many Weeping Ash and Elms, with Birches and Horse Chestnuts, some of which remain. He was one of the first growers of *Andromeda floribunda*, and his nursery became famous for its *Rhododendrons*. The Royal Botanic Society, we note, present occupiers of the ground, had annual shows of the flower from 1849 to 1874.

This useful and prosperous Society took over Jenkins' nursery in 1840, being then quite young, and numerous alterations, mostly improvements, have been carried out during the past sixty years. At that date the condition of both Kew and Chiswick was unpromising, so there seemed ample room for a new society designed to advance botany and horticulture; it has certainly been of service to gardeners. While recognising the valuable work done by several connected with

the Society, we must grant that, but for the labours of the Sowerbys, father and son, it could not have attained to its present position. It is not needful to go into guide book details, but I take a few facts about the gardens which are of importance. Its *magnam opus*, the chief conservatory, the centre of which, erected in 1846, from the designs of Messrs. Burton and Turner, was regarded as unique of its kind, the only objection made being that the structure was too light. An east wing and corridor was added in 1871 and the west wing completed in 1876. Two years before that a valuable range of houses was erected in the medicinal division to receive collections of economic plants. One of the other houses which for some years was a special attraction contained tall Pelargoniums and choice Azaleas; so, too, the house having the Victoria Regia, with groups of aquatic species, and the curious Gourd, *Trichosanthes colubrina*. We notice, as helpful to gardeners, the department where flowers are arranged according to colours, and the geographical garden which exhibits in order the species of various regions.

For some time past members of the Society have been anxious to start an "Albert Institute of Botany," to be connected therewith. At the last annual meeting the chairman regretted that no funds were available towards this object. He added that people will not pay for science, though they will pay to be amused. Hence it arises that the gardens have been more popular than ever for fêtes and entertainments. The profit obtained from these is not large, much expense being incurred in the maintenance of the grounds, and the subscriptions yield only a moderate return. The Practical Gardening School, about which hard things have been said, now numbers fifteen students, and last year 650 free students' orders given, courses of botanical lectures, also, which had fair audiences, and the general attendance at the gardens increased from 67,000 to 86,000.

Only a few weeks since a correspondent gave us some notes on the floral display in Regent's Park (page 236) as it was to be seen during the summer and autumn. The ornamental portion of the park was not laid out till 1863, the work being done under the direction of Mr. Cowper. We have both an English and an Italian garden, the latter divided by an avenue of Horse Chestnuts, not so large and lofty as those of Bushey Park, but considered to be of better shape. Yuccas and Rhododendrons were from the first made a notable feature of this garden, contrasting with Palms, Hollies, Conifers and other evergreens. The English garden is arranged to show a variety resembling Nature; the ground undulates, the walks are winding, clumps of flowering and evergreen trees appear of various sizes, single trees are also to be seen here and there amongst the grass. Formerly the Park exhibited a profusion of Pelargoniums, it is now found that this flower is apt to be unsatisfactory. The effect of an assortment of colours has always been studied in the beds, and sub-tropical plants with large and handsome leaves are favourites, such as *Ficus elastica*, *Cannas*, *Dracenas*, *Ricini* and Palms.

From the summit of Primrose Hill, above the Park, there was a time when you could survey the green fields of Islington, the wood of Highbury, and the windings of the New River to the north; but the scene has changed. Still, however, the river runs its course amid populous streets, though near the New River Head there yet remains a memorable piece of garden ground, which it is hoped to secure for the public. Close by, the seven-storied Canonbury Tower has for the present been spared, though its once extensive gardens and park have

only left names, or, at least, a few small open spaces. Prior Bolton, a good monk of the olden time, was one of its owners, and he put up in several places his punning device of a bolt or arrow piercing a tun. He delighted in his garden, cultivating Figs, Mulberries and choice Apples. He died in 1532. Islington early in our century seems to have been more famous for its cows than its Cabbages, but it had some market gardens or nurseries, since it was handy to the City.

Not far from Colebrook Row were the grounds which so rejoiced poor Charles Lamb when he retired from business life, and could regale himself upon their fresh vegetables and fruit. Part of this land was under cultivation fifty years ago, but the growth of Islington, Canonbury, and adjacent suburbs has sent the nurseryman farther off. He raises his stock at a distance mostly, though we come across some conservatories amongst the streets. It is supposed the oldest nursery in Islington was the one for many years held by Mr. Solomon, situated between Upper Street and Cross Street, near St. Mary's Church. The ground is now built over. At Holloway, beyond Islington, are the important nurseries belonging to Messrs. B. S. Williams & Son, which have existed a little over forty years. These, known as the Victoria and Paradise Nurseries, occupy about 3 acres. There is some outdoor cultivation, but the plants are chiefly under glass. Ferns, Palms, Orchids, with many other stove and greenhouse species, make a good show, in spite of smoke and fog.

Squares of various dimensions, seldom large, are freely scattered over these northern suburbs; here and there they represent the remainder of a much larger nursery garden. For many years the seven acres of Euston Square formed the Bedford Nursery; its name is now changed to Endleigh Gardens, but it is not yet free to the public. Amphill Square, Hampstead Road, was a nursery belonging to Mr. Greene; a rather extensive stock was cleared in July, 1878. No doubt as time goes on all the squares will be made pleasant gardens, also giving horticultural hints; but there are difficulties to be removed. Barnsbury Square was opened in 1891 by her Grace the Duchess of Westminster, and De Beauvoir Square by Lord and Lady Amherst in 1892. Canonbury and Thornhill Squares belong to the Islington Vestry, and have been open about ten years. The burial ground of the Chapel of Ease, Holloway, having a good extent, is

maintained by this Vestry in capital condition at all seasons; and that of St. James', Hampstead Road, is a beautiful garden.

Passing to the opposite side of the Regent's Park, we come to St. John's Wood, where the demand for flowers and plants led to the opening of numerous nurseries; the oldest I think, certainly the best known, was the Pine Apple Nursery of Messrs. Henderson in the Edgware Road. The firm made great improvements in the cultivation of Pines, and raised quantities of Grapes. The success of this business led to the establishment of Wellington Nursery by other members of the family. The head of this nursery, Mr. E. J. Henderson, died in 1876, at the age of ninety-three, a witness to the healthfulness of his profession. Subsequently, I remember the old Pine Apple Nursery made a fresh start, and showed a large collection of ornamental foliaged plants. About Maida Vale the nurseries, now reduced in number, used to remind one of King's Road, Chelsea, when in its glory. Strolling there some twenty odd years ago I came upon a plot of ground in Grove Road which had been occupied by a nurserywoman (Mrs. Ginn), one of the pioneers, shall I call her, of a recent movement.—J. R. S. C.

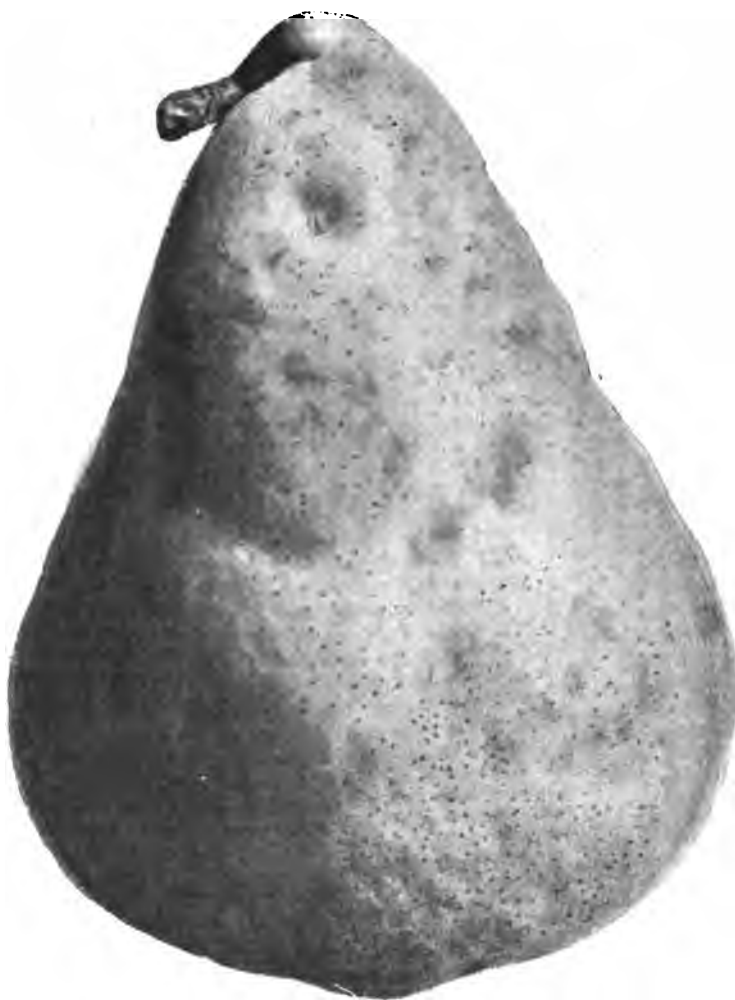


FIG. 80.—PEAR MARGUERITE MARILLAT.



EARLY BUD SELECTION.

ONE notices at the shows a large number of blooms, rough and entirely out of character, caused by selecting too early buds. The desire to obtain flowers of huge size makes growers afraid, when July or early August has arrived, to allow another section of growth to proceed, with the results mentioned. Instead of such growth, a long period of time is given to bud development, and sorts which naturally have an abundance of florets to open, become cramped and poor in colour.

Many a good variety has been discarded through being tried only one way the first year, when it often takes two or three seasons to properly understand how, by bud selection, to produce some kinds at their best. Take the Japanese variety, new perhaps to many, President Bevan. As mostly seen this year, it has been small-petalled, rough, and comparatively colourless. But one flower of it noted at the Kingston Show was about the most striking Chrysanthemum bloom we have met with anywhere this autumn. In contour this bloom was globular, broad floretted, full and large. The colour, an indescribable tint of rosy-buff, quite satiny in texture. How often do we see Chas. Davis exhibited a dirty yellow, Vivand Morel a rosy white, and Lady Hanham a creamy buff? Yet all three have lovely tints when grown in their true form. Master H. Tucker is a splendid variety, but not as usually seen from early buds. There is hardly a crimson to surpass it in richness from late ones, when it perfects blooms with broad florets of a strikingly handsome shape.

Madame Carnot, and the sports Mrs. Mease and G. J. Warren grow into blooms with long quill-like form of floret from no other cause than early buds, and Modesto will not put on that admirable deep, incurving shape for the same reason. Then Etoile de Lyon, Reine d'Angleterre, Mrs. C. H. Payne, Mrs. G. W. Palmer, Madame Louis Remy, Marie Calvat, John Pockett, Mdme. L. Zede, M. Ed. Andre, M. Hoste, and Col. W. B. Smith are coarse ungainly formed varieties as usually seen, the defects of which may be got over by later bud taking. General Paquie, Melusine, Mrs. J. Lewis, Phœbus, President Nonin are lovely Japanese varieties, but not true to character from early crown buds. The splendid Le Grand Dragon, fine in all respects, is usually spoiled in this way when the centre florets come short, or refuse to develop at all. The same may be said of Australian Gold, a fine Chrysanthemum when properly grown.

With very few exceptions indeed, the French-raised Chrysanthemums do not come of good shape and colour from early buds. This has been noted for some years, and the latest novelties from that source bear this trait also. Surpasse Amiral, a grand yellow, is yet another, and Madame Reine Salomon will be valued for its colour, a deep rich brown crimson, when growers select late buds of it. The early ones refuse to open, and the florets damp readily in such cases. Oceana has a cramped look generally; the fine blooms one meets with occasionally are those from late crown buds. The Convention and Miss V. M. Fraser, two amber-coloured sorts, have this season been generally spoiled because of this habit of taking early buds.

One might extend the list, but enough varieties have been named to urge those who may not yet have succeeded in producing flowers equal in beauty to their desires to try another season in the way indicated. We would rather defer bud-taking in these and many other instances to early September than end of July; and, to assist a plant to produce its buds about that time, something may be done by topping the young plants in early April, so as to hasten what would otherwise be a natural break, or late propagation may be a means to succeed in the same direction, that is, the production of late crown buds.—SPECIALIST.

ROOTING THE CUTTINGS.

ALMOST before the flowers are over for the year, growers will be thinking of propagating for another season. The mode of doing so has something to do with success. The wish to grow big blooms of this remarkable flower has fostered coddling in many phases of its culture, and in no one item is this more done than in the first stages. The plan adopted in very many cases is that known as the single-cutting-in-a-pot system. This plan has little to recommend it. In the first place, even in small pots, the soil is considerable in quantity, and as the pots are put into closed frames within glass structures and kept air-tight there is danger in the soil becoming sour before the cuttings have rooted.

Then the close frame is almost a certain means of many of the cuttings damping off. We have known growers, when possessed of

something new and choice, giving the cuttings extra attention in the way of a daily sprinkle, and thereby rotting them. The end of such mistake is that the vendor gets the blame for sending "bad cuttings," and even if they do not damp off in their infancy, the time taken to emit roots is long. When taken from the frame too, however carefully one watches them, the little plants flag their leaves, and get a check that lasts for some days.

Those who advise this single pot mode of propagation claim that there is no check given by not requiring repotting singly when rooted in other ways. But our experience is that the roots like fresh sweet earth, and in quite a few days become established into it. No way of rooting the cuttings is safer or more easy than that practised by the trade growers. We mean the use of shallow boxes. The size used is about 15 inches by 10 inches, and 3 inches deep. If these are filled with soil there is not a great bulk. Press the earth with tolerable firmness, and dibble the cuttings in about a couple of inches apart. With regard to the soil, we do not like too much sand in it; this tends to starve, rather than favour the cuttings.

A soaking of water is given, and the boxes are placed on shelves or light parts of a greenhouse where frost is kept out. The leaves may flag a bit, but no notice is taken of this. Do not be continually sprinkling the cuttings to avoid this, because they will gradually pick up, and when once this has taken place the leaves will continue fresh with ordinary care. When water is required always give a good soaking, and so on. If it be desired to hasten a particular variety or box of varieties, the same may be put into a warmer temperature with ease, and with no harm either. By this mode of propagation there should not be a loss of one cutting out of a hundred. The only item insisted upon is placing them singly into small pots the moment they are rooted, for if left only a few days after that has taken place the growth becomes drawn-up and thin. The making of new leaves is a sure indication that rooting has taken place. We would not shade from the sun, nor be particular if air reaches the cuttings. This creates a healthy growth from the first.

Another way of rooting to be preferred to the one in vogue is that followed by Mr. W. Mease, a name not unknown in respect to fine flowers. He prepares a frame around which a hot-water pipe runs, and may be used if necessary, by putting in suitable soil, brought pretty well up to the glass, and dabbles the cuttings in as one would Calceolarias. Fire heat is not used unless the weather be exceptionally cold, but generally preference is given to a covering of mats, straw, or the like. Losses of cuttings are rare, and the plants resulting are brought up in a sturdy manner. Of course, modifications of this plan will suggest themselves to suit one's appliances. If we had a cool greenhouse or pit, with a bench or stage not far from the glass, we would place a shallow surface of fresh soil and put the cuttings into this. In such a structure we may readily watch them in all weather, and do the necessary work in connection with them at ease.

Last season a correspondent who had followed the coddling practice lost all his cuttings. We advised the use of shallow boxes, and, with a fresh supply of cuttings, he obtained sturdy little plants, all potted and growing well, within six weeks. Coddling Chrysanthemums at any stage of their growth will end in failure, and to this treatment we fancy some of the pests and diseases which prove troublesome may be attributed.—A GROWER.

SECTIONISING JAPANESE CHRYSANTHEMUMS.

"A JUDGE" remarks that in every case in which efforts to div Japanese Chrysanthemums into incurved and reflexed have been made they have ended in failure. That may be the case when the effort includes lists defining what may be classed as Japanese incurved and what otherwise. We had classes for twelve incurved and for twelve reflexed Japs at Kingston, but did not commit the blunder of defining what were incurved or what reflexed by name. It was enough to leave the matter with exhibitors, and these found no difficulty in setting up blooms that admitted of no doubt as to their proper sections. That is the wisest course to take, because judges would award prizes to blooms in such classes only according to the affinity of the blooms before them with the terms incurved and reflexed, of course general excellence being added.

The following were the twelve incurved that were placed first, and they were exceptionally good flowers—Mrs. H. Weeks, Australia, Mrs. C. Orchard, Mary Molyneux, Mdme. Thérèse Rey, Miss E. Teichman, Lady Ridgway, Madame Lawrence Zede, Lady Byron, Mrs. C. H. Payne, Robert Powell, and Madame Faizer. The twelve reflexed flowers were Mrs. Mease, Lady Hanham, Mrs. Coombes, Madame Carnot, Charles Davis, Nellie Pockett, Le Grand Dragon, Vivand Morel, Madame J. Bruant, Eva Knowles, Pride of Exmouth, and Matthew Hodgson. These were also very good. It was my impression that flowers so divided, because of diversity of form, constituted as dozens on the boards far more pleasing objects than did the two sections mixed. I hope these classes may be retained.—A. D.

MADAME C. DESGRANGES.

It seems rather strange for a variety that is so well known as the above to be certificated after having been in cultivation for a quarter of a century, yet so it is. Following the example of our N.C.S., the Paris Chrysanthemum Committee of the National Horticultural Society of France has recently held an October show of early varieties, and among the awards of first-class certificates I find one was made to Madame Castex Desgranges. This variety was raised and sent out by M. Bouchariat, of Lyons, about the year 1874.

THE CULTURE OF LARGE-FLOWERING CHRYSANTHEMUMS.

M. VIVIAND MOREL, the Editor of the "Lyon Horticole," has recently issued a little cultural manual in French, bearing the above title. The book is really a revised and enlarged edition of a small pamphlet issued by him some years ago, but which, in view of the increasing interest now taken in this flower in and around Lyons, has necessarily developed into a more comprehensive work. It is neatly printed and freely illustrated, and contains much cultural matter of service to French growers. Its scope is limited to about sixty pages, and in its conception resembles the majority of the cheap little French guides on the popular flower.—C. H. P.

CHRYSANTHEMUMS AT HACKBRIDGE.

For many years past A. H. Smea, Esq., The Grange, Hackbridge, has opened his gardens to the public for the purpose of displaying an excellent collection of Chrysanthemums in bloom, and also to benefit the Royal Gardeners' Orphan Fund. This year is no exception, and on Sunday, the 12th inst., several hundreds of people visited The Grange. Japanese Chrysanthemums predominate, and the blooms are typical of the several varieties, both new and old. Other sections are also represented. The whole display reflects credit on the able gardener, Mr. Humphreys, and his assistants. There is also an interesting collection of Orchids, Cacti, Roses, and a remarkably fine selection of fruit trees in vigorous and fruitful condition. The opportunity of visiting these gardens and assisting a good cause extended for a week from the 12th inst.—E. D. S.

HIGHGATE CHRYSANTHEMUM SOCIETY.

At the recently held annual dinner of the above Society, at which the President, Mr. C. F. Cory-Wright, J.P., D.L., presided, there were present about eighty members and friends of the Society. Mr. H. W. Birks, a former President, proposed the toast of the evening, "The Highgate and District Chrysanthemum Society," coupled with that of the President. He remarked that on the fifteenth anniversary of their Society they might well feel inclined to blow their own trumpet, but he did not know that this was necessary, as the show spoke for itself. In toasting their President they were not only thanking him for what he had done in the past, but having accepted the office of President for another year, they were living in lively anticipation of favours to come. The President in responding said that he had been connected with the Society in one way or another ever since it was formed. He unfortunately could not be present at their recent show, but friends who were there had informed him it was the best show they had ever seen in Highgate. The silver cups and medals won at the recent exhibition were then presented, and the President remarked that as there was only one cup left, he and Mr. E. H. Smithell would give a silver cup to be competed for next year. The toast list was interspersed with some excellent songs.—W. E. B.

RYECROFT NURSERY.

MR. H. J. JONES' establishment at Lewisham is so well known that no notes on the nurseries at this season of the year would be complete without some account of the good things on view there. Altogether there are four large houses, containing about 7000 plants in flower. Calvat's seedlings, both new and old, figure largely, the best of them being represented by Madame Couvat Terrare, bright rosy pink; N.C.S. Jubilee, the green Madame Ed. Roger, President Bevan, M. Chenon de Leché, President Borel, Mrs. J. Lewis, Le Grand Dragon, and Zephoria, while other French novelties comprise Madame Gab. Debie, Madame H. Bernard, Rayonnante, and M. Louis Rémy, the fine pure pale yellow sport from Mrs. C. Harman Payne.

Very fine yellows are to be found in Oceana, Sir H. Kitchener, Mrs. A. Cross, Solar Queen, Hugh Crawford, while the higher tones of colour are represented by Mrs. W. Seward, Wm. Seward, the crimson H. Weeks, Lionel Humphry, a promising large-sized Japanese of crimson and gold; H. J. Jones, a very vivid crimson; Eastman Belle, an attractive crimson and gold sport from President Borel; Royal Standard, and most of the well known purples in their various shades. The Australian seedlings comprise most of those already well known, such as Oceana, Mr. T. Carrington, Wallaroo, The Wonderful, and Nellie Pockett, while whites of approved merit are Mutual Friend,

Jane Molyneux, and Simplicity. Several interesting sports are very promising; for instance, a sulphur form of Mutual Friend and Mr. W. Mease, a deep warm terra-cotta and golden sport from the old favourite show variety Etoile de Lyon.

A few other good sorts are the deep gollen yellow Japanese R. Hooper Pearson, a noble, attractive bloom; Edith Dashwood, a pretty soft pink of nice form; Mary Molyneux, large, and of a beautiful bright rosy pink; Mrs. Barclay, a fine silvery pink; and Fair Maid, a rather tall-growing plant, bearing some fine blooms, also pink. A yellow sport from M. Chenon de Leché is considered of some value, and Dorothy Fleming, a pretty white Japanese after the build of Good Gracious, is worthy of a mention. These are all in the two large show greenhouses, and in a smaller one adjoining are some freely flowered bush plants, among which Ryecroft Scarlet, a valuable decorative variety, is most conspicuous. Other varieties used for this purpose are White Quintus, Pride of Mytchett, Mabel Williams, and White Clinton Chalfont. The display is beautiful and all the plants clean.

IRIS KÄMPFERI.

IRIS KÄMPFERI appears to be one of the most difficult Irises to grow successfully, and I find in reading the gardening periodicals that the experience of others is similar to my own; there may, perhaps, be a little satisfaction in this fact. I was much interested in reading the notes on this beautiful and interesting class of plants, by the Rev. J. B. M. Camm, that appeared in the *Journal of Horticulture*. Speaking of I. Kämpferi, he says, on page 118, "If any readers are successful in growing these plants they will be perfectly amazed at the glorious flowers they produce."

After reading this sentence, which I thought perhaps might imply that very few are successful in growing it, I have been tempted to record my experience, both of failure and what I think will prove to be success. About four years ago a few plants of this Iris were purchased; they were planted on an ordinary flower border with other things. A friend was walking through the garden directly after, and noticing the plants, remarked, "You will find a difficulty in growing that Iris." He also intimated that some tried growing it in pots, plunging them in the side of a pond, and letting them remain in this position throughout the summer months. I have not tried this method, but am afraid they would not do very well with their roots cramped in pots.

But to go back to our own plants. We started with six varieties, one plant of each. The first season they grew about 6 or 8 inches high, but did not produce any flowers. During the next year two of them died; the growth made by those left was less than the first season—in fact, each year they became smaller, and had they remained in the same position another year no doubt it would have been their last.

In the spring of this year a situation was specially prepared in the following manner:—A bed was made about 6 feet long by 2 feet wide, the soil being taken out to the depth of 18 inches to 2 feet. The subsoil was removed, and the bed then filled in with the top soil, peat and good decayed manure in about equal proportions, and trodden firmly as the work proceeded. (I might perhaps add that the peat was used with a view to holding the moisture).

The bed was made on a border facing south, with a fall to the front, the position being chosen from the fact of there being a water-tap in close proximity. The surface of the bed, however, was made level, and from 4 to 6 inches below the surface of the border, and a few flat stones laid round to keep the sides from falling in. The plants, which were in a very unhealthy condition, were put in at once, and well flooded with water. They responded quickly to this new treatment, and one could see at a glance that they were more at home in their fresh quarters, for they grew rapidly. The bed was flooded with water two or three times a week all through the summer. The plants have made satisfactory growth, the foliage attaining a height of 18 inches to 2 feet. This I notice is the height given in Nicholson's "Dictionary of Gardening." The plants have also greatly increased in size. Only one flowered, this producing two blooms. Now that they seem to be well established, one may naturally expect to have a better show of flowers another year.

IRIS SUSIANA.

This is another member of the family that I have not succeeded in growing successfully. On referring to Nicholson's "Dictionary of Gardening" I find that *Iris iberica* and *I. Susiana* are two of the most singular and beautiful species, belonging to a separate group or sub-genus. They are amongst the most difficult of plants to flower, and require special treatment, apart from any of the others. A frame, and light rich soil, should be provided for their accommodation, and they ought to be dried off, and allowed the fullest exposure to the sun from the time flowering is over until spring of the following year. Plenty

of river sand round the rhizomes tends to keep them dry in winter—an important point in the cultivation—and also assists in effecting perfect drainage at all times.

About two years ago we planted a few rhizomes, a situation being prepared in the front of an herbaceous border. Part of the natural soil was removed and replaced by a mixture of light loam, leaf soil, and a little sand. The rhizomes were laid on the soil and covered about an inch deep. The first season they grew well, making healthy foliage about a foot to 18 inches high. Only one bloom was produced. It is a very distinct and pretty flower, although not quite so showy as some of its companions, and quite different from any other Iris that I have seen.

The plants were allowed to remain in this position without any protection, and the consequence was they started into growth prematurely, making about 6 inches of foliage in the autumn. This was greatly injured by the severe weather we experienced during the month of March last. Very little, if any, growth was made during the remainder of the season. At the end of the summer the rhizomes were taken up and found to be firm and clean, but smaller than when first planted. They should have been lifted earlier, as new roots were already made.

I intend preparing a place and replanting them on the same warm border with *I. Kämpferi* already mentioned. The soil will be taken out about 2 feet deep, 6 inches of stones or other material put in the bottom for drainage, and then filled up with prepared soil. The surface will be slightly below that of the border for the purpose of affording water more easily during the growing season. The rhizomes, which will be thinly disposed, will be covered with 2 inches of soil. This Iris, not being quite hardy, will be protected during the winter. If this mode of culture proves successful I may perhaps have more to say at some future time.—J. S. UPEX.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—NOVEMBER 21ST.

It was a pleasure indeed on Tuesday morning to see the bright display of flowers and fruits in the Drill Hall. Out of doors it was raw, foggy, and unpleasant, while within the building, though the fog could not be excluded, the brilliance of exhibits did much to dispel the gloom. There were magnificent displays of Begonias, Zonal Pelargoniums, Chrysanthemums, with a most interesting collection of Orchids, amongst which *Cattleya labiata* in variety was conspicuous. Cyclamens, too, are appreciated at this time of the year. Apples were grandly exhibited from the county of Monmouth, per Mr. John Basham of Bassaleg, who is well known as a hardy fruit grower of repute.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair); the Rev. W. Wilks and Messrs. J. Basham, W. Foupard, J. Cheal, M. Gleeson, A. F. Barron, A. H. Pearson, A. Dean, S. Mortimer, J. W. Bates, C. Herrin, G. Wythes, G. Reynolds, F. Q. Lane, Jas. Smith, R. Fife, G. Bunyard, and Jas. Veitch.

Messrs. Harrison & Son, Leicester, were represented by a small collection of vegetables in which Onions formed the most conspicuous feature. These comprised the handsome Leicester Globe, Up-to-Date, Excelsior, Banbury Cross, and Rousham Park Hero. Potatoes included Windsor Castle, Motor and Up-to-Date. Of Leeks there were Lyon, Conqueror and Leicester Hero, a comparatively new variety of an excellent type. Carrots, Stump Rooted, St. Valery and Early Market were included, with Parsnip Magnum Bonum, and Beets Egyptian and Dobbie's.

Monmouthshire was represented by a most excellent collection of Apples, comprising about 200 dishes. These were staged by Mr. John Basham, Bassaleg, and many of the varieties were utilised to illustrate his afternoon lecture. The major portion of the collection was contributed by Mr. Basham, but others came from different soils in various parts of the county, and if the exhibits may be regarded as truly typical, then must Monmouth be accorded a very high position as an excellent Apple producing county. Many of the fruits were from orchard standards, and if in some cases rather small, they were generally well shaped, and of rich colour. Amongst the assistants to this display may be enumerated Mr. W. Moxham, Mitcheltrey, Mon, who sent several dishes, including Newton Wonder, in absolutely perfect condition, Bismarck, Alfriston, and others; Mr. T. Coomber, gardener to Lord Llangattock, The Hendre, Monmouth, whose dishes of Peasgood's Nonesuch, Lane's Prince Albert, Newton Wonder, Bismarck, The Queen, and Belle du Pontoise were splendid; Mr. W. Lloyd, Maindee, Newport, whose bush trees are on red soil over sandstone, and, like Mr. Coomber's, have had no manure since planting, staged King of the Pippins, American Mother, Newton Wonder, Royal Jubilee, Lane's Prince Albert, Lord Derby, and Cox's Orange Pippin in good form; and Mr. J. Bone, gardener to Lord Tredegar, Tredegar Park, who sent Cox's Orange Pippin, Warner's King, Sandringham, Lane's Prince Albert, Bramley's Seedling, Bismarck, and Bess Pool. These last named were grown on a shallow loam over a sour gravel.

One hundred dishes were contributed by Mr. Basham, and these included some excellent fruits of such varieties as Clasy, a local at least one hundred years old; Old English Pearmain, of which the history can be traced back for quite seven centuries; Blenheim Pippin, superb in

colour and size; Emperor Alexander, fine; Court Pendu Plat, Lane's Prince Albert, fine; Peasgood's Nonesuch, splendid; the Melon Apple, Ten Commandments, Alfriston, Newton Wonder, of beautiful colour; Lord Derby, grand; King of the Pippins, perfect; Yorkshire Beauty, beautiful; Mère de Ménage, Belle Dubois, American Mother, wonderfully coloured; Manks Codlin, Tyler's Kernel, Graham's Jubilee, Frogmore Prolific, Annie Elizabeth, very fine; Wellington, Catshead, Warner's King, Sandringham, Galloway Pippin, Requette du Canada, fine; Hoary Morning, superb colour; Kingsacre Pippin, Norfolk Beefing, and Eoklinville Seedling.

Messrs J. Laing & Sons, Forest Hill, staged a capital display of Apples. The dishes were large and well coloured, and included good examples of Mère de Ménage, Tyler's Kernel, Royal Russet, Tom Putt, Lane's Prince Albert, Gascoyne's Scarlet, Blenheim Pippin, Bramley's Seedling, Peasgood's Nonesuch, and Lady Henniker.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); and Messrs. C. E. Shea, C. T. Drury, H. B. May, Jas. Hudson, J. Jennings, J. F. McLeod, Thos. Peed, C. R. Fielder, J. Fraser, J. D. Pawle, C. E. Pearson, E. H. Jenkins, D. B. Crane, H. Turner, Ed. Mawley, E. T. Cook and C. Jeffries.

Mr. W. J. Godfrey contributed a fine table of specimen blooms, also a few decorative varieties. The large flowers included well coloured flowers of Marie Calvat, Mrs. Barkley, Mrs. Mease, Leonidas, Wattle-blossom, grand blooms of Chatsworth, and François Pilau. A grand group of vases and baskets was staged by Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, arranged with suitable autumnal foliage. The flowers were magnificent, and included specimen blooms of Mrs. Coombs, Emily Towers, Dorothy Seward, Mrs. Mease, G. J. Warren, Nellie Pockett, Annie Prevost, E. Molyneux, Phœbus, Mons. Chenon de Leché, H. J. Jones, R. Hooper Pearson, Edith Dashwood, Mutual Friend, Lady Hanham, Jas. Bidenscope, and Ma Perfection. The exhibit was a remarkably fine one. A beautiful group of Chrysanthemums was staged by Messrs. J. Peed & Son, Norwood. The blooms were bright and well developed, and the display clearly demonstrated that good plants can be grown in small pots for decorative purposes.

The value of Pompons for decorative purposes was clearly demonstrated by Mr. E. Beckett, gardener to Lord Aldenham, Elstree, who had a fine display arranged in vases. There were about thirty-six varieties staged. The most conspicuous were Emily Rowbottom, Helene, Miss Nightingale, Mr. Astle, Wm. Westlake, Regulus, Motel, Scipio, Eleonore, Marabout, and Golden Madame Marthe. A table of cut Chrysanthemum blooms was shown by Mr. Neville, gardener to F. H. Flight, Esq., Cornstiles, Twyford, Winchester, which comprised three boxes of Japanese varieties, and four boxes of incurved. In the former section the best blooms were Mrs. W. Mease, Madame Carnot, Hon. W. D. Smith, G. Warren, Vivand Morel, General Roberts, Matthew Hodgson, Julia Scaramanga, and Henry Weeks. The incurved were not over-large, but beautifully neat and well finished. The best flowers were Mrs. Jas. Eadie, C. S. Bates, Ma Perfection, George Haigh, Bonnie Dundee, and Mrs. R. C. Kingston. Mr. J. H. Witty, Nunhead Cemetery, arranged a group of the remarkable Chrysanthemum distributed last season, "What Ho!" which is decidedly more interesting than beautiful.

A group of specimen Ferns was arranged by Messrs. J. Hill & Son, Lower Edmonton, arranged with baskets of small Ferns and Lycopodiums. The specimens included *Lygodium scandens*, *Gymnogrammas* in variety, *Polypodium sporocarpium*, and *Nephrolepis* in variety. A pleasing feature was the tinted and variegated Ferns, such as *Adiantum scutum*, *Brainea insignis*, and *Doodia aspera multifida*. Messrs. T. Cripps and Son, Tunbridge Wells, exhibited a group of *Poinsettia pulcherrima* in 5-inch pots. The bracts were large and fully developed, giving a touch of bright red that was much needed on the dull day. A glorious group of Zonal Pelargoniums in pots was arranged by Mr. A. Chapman, gardener to Captain Holford, Tetbury. The plants were well grown and a mass of flower. The best varieties were Ian McLaren, Condé, Agucé, Chaucer, Dryden, Duchess of Eife, Crabbe, Mrs. Simpson, Lady Newton, Southery, and Athlete.

Perhaps the chief feature in the Hall was a huge bank of winter-flowering Begonias from Messrs. Jas. Veitch & Sons, Ltd., Chelsea, which presented a grand appearance for the dull month of November. The varieties were Myra, a single rose variety, very free-flowering; Ensign, a semi-double similar in colour, with a grand form, a cross between *B. socotrana* and *B. tuberosa* varieties, a good addition to this class; Winter Cheer, a bright r variety; John Heal, a variety resembling the popular Gloire de Lorraine, but with deeper coloured flowers; Mrs. Heal, a single, with larger flowers a bright rose colour, and Begonia Sylvia, a semi-double. Messrs. F. Sander & Co., St. Albans, contributed a few choice plants such as *Dracena Sanderiana*, *Kentia Sanderiana*, *Linosydia Petrickiana*, a new Palm of great promise; the young leaves are a bright bronzy red; and *Licuala Jeannecey*, a Palm of considerable merit for decorative purposes. Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a table of Cyclamens which were chiefly noteworthy for the variety of colours; needless to say the plants were well grown.

ORCHID COMMITTEE.—Present: Harry J. Veitch, Esq. (in the chair); and Messrs. Jas. O'Brien, J. G. Fowler, J. Douglas, C. Wian, J. Jacques, E. Hill, J. Colman, F. J. Thorne, W. H. Young, H. J. Chapman, H. Little, F. Saunders, De B. Crawshaw, T. W. Bond, E. Ashworth, A. H. Smee, and T. B. Haywood.

Numerically Orchids were not conspicuous, but they were of the greatest interest and well diversified. Messrs. Paul & Son, Old Nurseries, Cheshunt, were represented by five round baskets and two pans of *Cypripediums* with two rounds of the chastely beautiful *Masdevallia tovarensis*.

The *Cypripediums* included *Ashburtoniae*, *Chantini*, *alba marginata*, *Leeanum*, *grandiflorum*, *Spicerianum* and *aureum*. All the plants were in excellent health and carrying good flowers. Mr. C. Whitlock, gardener to W. A. Bilney, Esq., Fir Grange, Weybridge, contributed a collection of flowers of *Cattleya labiata* in variety, with a spike of *Vanda Sanderiana* and *V. oerules*. Mr. E. Kromer, Bandon Hill, also sent flowers of *Cattleya labiata*. In both instances the flowers were of good quality.

Messrs. J. Veitch & Sons, Chelsea, sent a charming group of Orchids, in which eight plants of *Cypripedium insigne* Sanders met with general appreciation. Each carried splendid flowers. There were, too, *Cypripediums* *Creon*, *Prospero*, *Arthurianum*, *cananthum superbum*, *Niobe*, *Euryades*, *Enid* and *Leeanum*; *Lælio-Cattleya Decia*, *L.-c. Dominiana*, *langleyensis*, *L.-c. Lady Rothschild*, *L.-c. Statteriana* and *L.-c. Semiramis*; *Cattleyas* *Portia*, *Alstania* and *Pearl*, with a few others. The same firm also contributed several rarer forms, as also did a few other growers. Mr. J. Bradshaw showed from Southgate a small collection of Orchids including *Cattleyas* and *Cymbidium Traceyanum*.

Mr. A. Chapman, gardener to Captain Holford, Westonbirt, Tetbury, contributed a collection of *Cypripediums*, including *Pitcherianum*, *Williams' variety*; *Morganis burfordense*, *Leeanum giganteum*, *L. superbum*, *Spicerianum magnificum*, *Arthurianum pulchellum*, *Ashburtoniae*, *Charlesworthi magnificum*, *Niobe magnificum*, *Tityus*, *Arthurianum*, *Buchanianum*, *Barleti*, *cananthum superbum*, *insigne Dorothy*, *i. Sanders*, *i. Laura Kimball*, *i. Maulei*, *i. Balli*, *i. citrina*, *i. biceps*, *i. Dormani*, *i. Harefield Hall variety*, *i. punctatum violaceum*, and *Milo Westonbirt variety*. The plants were splendidly grown and carried fine flowers. Messrs. H. Low & Co., Bush Hill Park, sent a small collection of Orchids, including *Oncidium*, *Cattleyas*, *Cypripediums*, with *Cycnoches chlorochilon*, and *Cypripedium insigne* *Laura Kimball*.

MEDALS.—Fruit Committee.—Mr. J. Basham, silver-gilt Knightian medal; Messrs. J. Laing & Sons, silver Knightian medal; and Messrs. Harrison & Sons, silver Banksian medal. Floral Committee.—Gold medals to Messrs. W. H. Lees and J. Veitch & Sons; silver gilt Flora medal to Mr. A. Chapman. Silver Flora medals to Messrs. J. Hill and Son, Cripps & Son, and E. Beckett; silver-gilt Banksian medal to F. W. Flight, and silver Banksian medals to Messrs. W. J. Godfrey, Peed and Son, and H. Low & Co. Orchid Committee.—Silver-gilt Flora medal to Messrs. J. Veitch & Sons; silver Flora medal to Mr. A. Chapman; and silver Banksian medal to Mr. J. Bradshaw.

CERTIFICATES AND AWARDS OF MERIT.

Apple Cissy (J. Basham).—An attractive Apple of medium to large size, almost wholly covered with crimson and having numerous white spots. The stalk is very short and is deeply set in a small cavity. The small and closed eye is deeply set in a puckered basin (award of merit).

Apple Bassaleg Pippin (J. Basham).—A very handsome Apple of regular shape. The colour is pale lemon with a crimson cheek, splashed with darker crimson on the sun side. The stalk is scarcely more than a knob, and is deeply placed in a wide green-lined cavity. The small, half-open eye is deeply set (award of merit).

Begonia Sylvia (Jas. Veitch & Sons).—A semi-double variety with rosy pink flowers, free flowering, and of good habit (award of merit).

Cattleya Bouring-Massaiana (J. Hamilton).—The name of this tells the parentage. The sepals and petals are purple rose, the lip being velvety crimson purple on the front lobe and yellow in the throat (award of merit).

Cattleya vestalis (J. Veitch & Sons).—This is from a cross between *C. Dowiana aurea* and *C. maxima*. The sepals and petals are creamy blush; the long lip is crimson purple veined bright crimson, and the fimbriated margin is white; the throat is orange (award of merit).

Chrysanthemum Mrs. Alfred Tate (W. H. Lees).—A terra-cotta bronze sport from *Etoile de Lyon*; a very taking variety (award of merit).

Cypripedium Milo Westonbirt variety.—A magnificent form. The pouch is deep claret, as are the petals, which, however, have a margin of green. The handsome dorsal sepal is green at the base, but the colour is almost obscured by the deep purple brown spots. The margin is white (award of merit).

Dracana The Queen (Jas. Veitch & Sons).—A charming variety of the rubra type, a deep green, broadly edged with pink; will make a good decorative variety (award of merit).

Odontoglossum Loochistensis Canary Bird (W. Stevens).—A most attractive yellow variety, with narrow sepals and petals chastely spotted with brown (award of merit).

Pear Double de Guerre (F. Lloyd).—A stewing Pear of medium size and regular shape. The colour is green with a flush of bronze on the sun side and profusely covered with brown russet. The stalk is obliquely set on the side of the fruit. The eye is large and wide open (award of merit).

Zonal Pelargonium litan (Captain Holford).—A pale pink variety, a little deeper in colour than *Duchess of Fife* (award of merit).

FRUIT GROWING IN SOUTH WALES.

In the report above particular attention is called to Mr. Basham's Monmouthshire fruit, and it was a matter for regret that the number of Fellows at the afternoon meeting was so small when this excellent grower read a paper with the title given. It would be of much advantage, both to the lecturer and his audience, if the noise in the hall could be abated during the reading of the papers, as it was at times almost impossible for the essayist's remarks to be heard. It was evident that it was a source of trouble to Mr. Alfred Pearson, who occupied the chair;

but it was not then possible for him to take any steps in the matter, however much he might have wished to do so.

Mr. Basham opened his discourse with a geographical description of the county, in whose possibilities as a fruit growing centre he has the utmost faith. The soil of various districts was explained, and instances quoted where possible, of excellent fruits being produced on the different kinds. This embraced not only private gardens, but also Apples from new as well as very ancient orchards. He referred to the exceptionally heavy crops that are the rule rather than the exception, some varieties being particularised as suitable for special districts and soils. Attention was also called to the brilliance in colour of some varieties, and any number of illustrations of this could be found in the collection of Monmouthshire produce that the essayist had brought together. The paper throughout was of an essentially practical character, and it will be read with undoubted advantage when the full text is published in the Journal of the Society.

SCIENTIFIC COMMITTEE, NOV. 7th.—Present: Dr. M. T. Masters (in the chair); Mr. Michael, Dr. Russell, Mr. E. F. in Thurn, Mr. E. Mawley, Professor A. H. Church, and Rev. G. Henslow, Hon. Sec.

Effects of Fog.—Mr. Wright sent some Vine leaves from Chiswick to show the injurious effects of the recent fogs in the gardens of the Royal Horticultural Society. All the Muscat class of Grapes were most injured, the foliage being all scorched and the fruit more or less covered with a deposit. It was observed that the fog was remarkably early in the season. Prof. Church noticed that it was peculiarly pungent, causing a hundred buds of a *Camellia* to fall in a single day. Injury was also done to Orchids in Chelsea and Gunnersbury. The real cause of the injury is the presence of sulphurous acid gas, as well as the mechanical accumulation of sooty matters.

Amaryllis reversion.—Rev. W. Wilks brought an *Amaryllis*, the flowers apparently having more or less reverted to the primitive form of *Hippeastrum*, from which the modern types were descended through hybridisation.

Foxglove, hybrid.—A flowering spike of a hybrid between a white-flowered Foxglove and *Digitalis lutea* was sent by Mr. Wilson, of St. Andrews. It was remarkable in having much smaller flowers than those of the usual form of *D. purpurea* × *D. lutea*; and though possessing perfect pistils, there were no stamens. Moreover, the flowers were white, but slightly virent. The white Foxglove was the pollen parent.

French Vineyards Injured.—Dr. Masters observed that having lately seen the vineyards of the champagne country, also those near Neuchâtel and Geneva, he did not observe a single perfect bunch of Grapes. They appeared to have rotted early in the spring, through frosts prevailing at the time fertilisation was taking place.

Pinus aristata.—He also exhibited cones of this rare Californian Pine. They are remarkable for bearing a needle-like spine at the back of the thickened end of scales, the so-called hypophysis. It was a question whether this be not a variety of *P. Balfouriana*, which grows in the same country and only differs in the absence of the spine. It is a good maritime species, bearing dense foliage. They were received from Mr. Croucher of Crief.

Pelorian Mentha.—Mr. Henslow showed a drawing of a regular flower of *Mentha rotundifolia* found wild by the river Wye, near Ross.

HARDY FRUITS AT SYON.

THE gardens at Syon House, Brentford, one of the several seats of the Duke of Northumberland, have long been famed for both forced and hardy fruits. When it is said there are nine acres of kitchen garden in three walled sections, and every available foot of space filled with fruit trees surrounding the vegetable quarters as well as the walls themselves, it will be readily conceded that Mr. G. Wythes' fruit charge is an extensive one. The situation is very low, so low, in fact, that drainage in winter is rendered difficult, not only because of its elevation but because of the close proximity of the river. The soil is light, resting on a gravel bed, which is favourable in some respects, and less so in others. It is only by thorough cultivation that the best results are to be obtained in this land, particularly when such a summer as the one in 1899 has to be reckoned with.

APPLES.

Apples and Pears are necessarily grown in considerable numbers. The trees themselves were generally in the best of health, the younger ones in particular, so many of which have been planted by Mr. Wythes. Of the more useful cooking and dessert sorts there are goodly numbers planted of each, which is not only an excellent practice but a necessary provision where the daily needs of the kitchen is heavy. A long line of trees of Allriston skirted one of the large vegetable quarters, and this Mr. Wythes speaks of as being one of his best for later supplies. Quantities, too, are planted of Lord Derby, Stirling Castle, Lord Grosvenor, Bismarck, Warner's King, and Lane's Prince Albert, the last-named coming next to Allriston in keeping and cropping properties. Cox's Orange, Ribston and Blenheim Pippins, and King of the Pippins are among the dessert sorts grown in quantity, the latter being a never failing Apple. Blenheims are good as standards, but, as everywhere else, it is very sparing in fruiting on bush or pyramid-trained trees.

There is a long list of varieties treated as bushes, and others grown as horizontal cordons, do excellently and furnish the best samples. Of these Bramley's Seedling, Gold Medal, Cardinal, Cox's Pomona, Domino, Grenadier, Ecklinville, the newer Chilwell variety Newton Wonder,

which gives much promise as a bush, Northern Greening. Winter Hawthornden, Stone's, The Queen, Potts' Seedling, Queen Caroline, Peasgood's Nonesuch—which is not a good bearer at Syon—and Sandringham are some of the better cooking varieties. Dessert sorts are numerous grown, among which may be mentioned Mr. Gladstone, Mother, St. Edmund's Pippin—a variety Mr. Wythes thinks highly of—Scarlet Nonpareil, White Transparent, Wealthy, Sturmer Pippin, James Grieve, Irish Peach, and Lady Sudeley as a portion that have fruited well this year.

PEARS.

Pears are as extensively and as well grown as Apples, and these occupy a large extent of wall space—east, west and north aspects—both as espalier and cordon-trained. The latter form an interesting and extensive collection, and furnish many dishes of fine exhibition fruit. Beurré Diel fruits splendidly, as also do Glou Morceau and Durondeau, Le Lacteur, Beurré Bachelier, Beurré Baltet Père—fine as a cordon—Beurré Rance, Fondante d'Automne, Conference, Marie Benoist, Pitmaston Duchess, Marie Louise, Nouvelle Fulvie, LouisBonne of Jersey, and Doyenné du Comice.

The collection is such an extensive one that to give a complete list would need too much space, but a few of the newer and uncommon sorts deserve mention that are both grown in pyramid and cordon forms. Mag-nate, Marguerite Marillat (fig. 80), President d'Osmonville, Triomphe de Vienne, Dr. Jules Guyot, Docteur Joubert, Fondante de Thirriott, Beurré Montillet, Baron Leroy, and Bellissime d'Hiver are a few of the prominent ones that are good.

STONE FRUITS.

Peaches on the open walls are extensively planted, and a finer stock of trees, numerically and culturally, I have never seen in a private garden. Though the soil is light, and the past summer has been so hot, the trees were perfectly healthy, almost robust in their growth, and free from insect attacks. From 500 to 600 feet run of wall is devoted to Peaches and Nectarines, the aspects varying from south to north. This is the only instance where I have come across Peaches trained to a north wall, and they appeared as happy as the others more favoured. No coping beyond that which the capping of the wall furnishes is used, and blister is almost unknown in spring.

Several bush trees were noted growing in a south border, probably 10 or 12 feet from the wall; these Mr. Wythes is inclined to move to a cooler position, with a view to retarding their flowering in spring. The varieties that do best outside are Hale's Early, Amsden June, Waterloo, Royal George, Grosse Mignonne, Stirling Castle, Bellegarde, Crimson Galande, Dymond, Nectarine Peach, Sea Eagle, Late Devonian and Golden Eagle.

Plums are not such a success as Peaches, the soil not being so well suited to them; but Apricots rarely fail to bear heavy crops, a long length of wall facing south-west being fully furnished. Cherries, like Apricots, do capitally, and extend over a long season, mostly from west and north walls. Governor Wood, Early Rivers, Bigarreau Napoleon, most of the Duke section, and St. Margaret are the sorts most largely grown.

STRAWBERRIES.

An acre of ground is devoted to Strawberries for the summer crop, the greater portion of the plants being treated as annuals. This system Mr. Wythes finds to be one best suited to his soil, but it entails a considerable amount of labour. Runners are layered early, and planted as soon as there is vacant ground ready, the clearance of early spring vegetables providing suitable sites. The plants, as I saw them, were strong in leaf and crown, and gave promise of a good crop in due time. Royal Sovereign is the most largely grown, and suits the soil well, Vicomtesse is prized for preserving, and President for its high flavour. Others, including the late section, are planted in lesser numbers. The ground cleared of Strawberries comes in conveniently for planting winter vegetables, that are better for having firm soil.

The demands for bush fruits would naturally be heavy, and require considerable numbers of trees in their several kinds. Gooseberries were grown as trained cordons, and a new trellis was being prepared for them to replace others, or to supplement existing stock.

From the foregoing notes it will be observed that the hardy fruit department is both extensive and well carried out under the able directorship of Mr. Wythes, and his staff certainly deserve a word of commendation for the excellence of their work in every detail. The day chosen for my visit was an unfortunate one, rain continuing from the commencement until the close of the inspection of the several departments. Some notes on the indoor fruit shall form the subject of another paper, which I may, in passing, say is, in a measure, as extensive as the outdoor grown. Of fruit rooms there are several, but the principal one is a commodious structure admirably fitted up with suitable staging. — W. S.

TOMATO GOLDEN NUGGET.—The disfavour in which yellow-fruited Tomatoes have been for a long time held seems, I think, to be passing away, at any rate as regards the smaller kinds, and the variety named above is certainly worth growing. The fruits occur in a distichous bunch or raceme, rather than in clusters, like most sorts, and are individually as large as a small Walnut. They look extremely pretty dished up on Fig leaves or on the foliage of a Vine that colours well, like Gros Guillaume or Madresfield Court. They have been used for dessert on several occasions this year, and though some may think them out of place, they certainly look very nice, and are freely eaten. — C. H.



RECENT WEATHER IN LONDON.—The weather in London during the past few days has been somewhat more seasonable, and there have been one or two night frosts. No rain has fallen since Saturday, but each day has brought slight fogs. Tuesday was raw and cold, with local fogs. At the time of going to press on Wednesday it was hazy but mild.

— **ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS IN HORTICULTURE, 1900.**—The day suggested for the examination, April 17th, being Easter Tuesday, and highly inconvenient to many, has been altered to Wednesday, April 25th.

— **TOMATO ECLIPSE.**—This has again been one of the most useful Tomatoes I have grown. The fruit is about the same size as that of Conference, and, like it, of excellent shape, but according to my experience it is a good deal earlier and more free fruiting. It sets well early in the year, and the fruit on even my earliest plants had to be very severely thinned. The Tomatoes are grown on about 3 inches of soil for a start, and fed by top-dressing as the season advances, never giving anything in the way of stimulants until the first fruits have set and are swelling freely. — H. R. RICHARDS.

— **RESTING FERNS.**—Though always green and fresh, there is no doubt that many of our evergreen Ferns take a distinct resting season, and at such times should not be subjected to forcing conditions. In many instances—especially where Ferns are grown for cutting for sale—an attempt is made to keep them growing when they should be at rest, and although for a time the plan is successful the plants soon tire of the unnatural conditions, and fail to break strongly. The longer they are treated thus the worse for them, and those having fine forms and varieties under their charge will be wise in keeping an eye on the finishing growths, and when activity is past for the season treat them accordingly. — GROWER.

— **PEAR BEURRÉ DE CAPIAUMONT.**—Among autumn-ripening Pears this variety is worthy of extended cultivation, being a great and almost constant bearer; also an excellent market fruit. It is of good appearance with its obtuse pyriform shape, almost covered with fine cinnamon-coloured russet, and reddish orange shining out through the russet on the side next the sun. The flesh is buttery, melting, with a rich vinous and sugary flavour. It keeps sound for some time after it is ripe if stored in a cool temperature. It does very well on the Quince stock, and bears abundantly in quite a young state. It forms a handsome pyramid, especially on the Pear stock. It is somewhat variable as regards quality, with which the season has more to do than the soil. It succeeds well either as a cordon, espalier, or wall tree. It is also well adapted for the northern parts of our island. — W. G.

— **INSECT OR OTHER PLANT PESTS.**—It was the other day remarked to me as very odd, that although we have had two specially hot dry summers, with mild winters, yet that generally insect pests have given comparatively little trouble. Cold seasons seem with us here to breed these pests more freely than hot dry ones do. In America the comparatively dry atmosphere seems to breed pests wholesale, if we may judge from the frequent publication of information respecting these predatory insects and means of battling with them. Many of the remedies used in America seem to be quite uncalled for here. The troublesome Onion maggot seems to have almost entirely disappeared. This form of pest has not materially troubled Carrots, but aphids did to an unusual extent, and this pest with the Cabbage beetle gave more trouble than all others put together. Both were very difficult to combat, because generated so rapidly by the very hot soil and atmosphere. But these pests after all were more the passing effects of a season, and a good soaking winter may destroy their progeny materially. But fruits have suffered little. Apple caterpillars, or those of the lackey moth, have given little trouble, the Pear slug has not been conspicuous, and even the feared Black Currant mite has been little heard of outside certain Kentish districts. Fungoid diseases have given little trouble also. Of course, with cold wet seasons these may return in force, because they thrive under such conditions. But, on the whole, taking the season generally, gardeners have to admit that beyond the special vegetable troubles named very little harm has been done by insect pests. All the same, when they do exist they should be fought with persistency. — A. D.

— **GARDENING APPOINTMENTS.**—Mr. C. W. Barrett, who has been for the past seven years head gardener to G. J. Fenwick, Esq., of Bournemouth, has been appointed head gardener to C. E. A. George, Esq., Fleet House, near Weymouth. Mr. A. Haynes, late general foreman under Mr. E. Gilman at Alton Towers, as gardener to F. H. Cook, Esq., The Grange, Walton-on-Thames.

— **APPLE NANNY.**—I am very glad to see so notable an authority as Mr. E. Molyneux taking up the cause of the Nanny Apple. With his good word it is not likely to become lost to cultivators, and I feel sure it only needs to be more extensively known or grown to be more appreciated, both by private and market growers. Undoubtedly Mr. Molyneux is right when he hints (see page 405) that it succeeds best with free cultivation and little pruning. I have, however, one close pruned espalier tree of it which generally fruits well, and the specimens are usually finer and better coloured than those from standard trees, but the tree is old. Probably, to secure quick returns from young trees, free and unrestricted growth is necessary. Can Mr. Molyneux tell us how it answers on the Paradise stock?—A. E., Devon.

— **DEATH OF MR. J. EALES.**—In opening the recent show at Sullihull, of which a report appears on page 456, S. Leitner, Esq., feelingly referred to the recent death, after only a few days illness, of Mr. Josiah Eales, for nearly ten years gardener to the late C. Hoskins, Esq. He was highly respected by the horticultural fraternity of the neighbourhood, and had been looking forward with much interest to the coming exhibition of the Society, and of which he was a leading spirit. His employer, Mrs. Hoskins, considerably allowed his exhibits to be shown on the present occasion, but under the cognomen of "Anonymous," the prize money to be given to the widow and child. It is only just to remark that much credit was due to Mr. Eales's foreman for the excellent manner in which the exhibits were arranged. The deceased took much interest in the cottagers' gardens of the district, and of which he was supervisor under the auspices of the County Council Horticultural Department.—W. G.

— **BRISTOL GARDENERS' ASSOCIATION.**—The fortnightly meeting of the Society was held at St. John's Parish Room, Redland, on Thursday last, Mr. C. Lock presiding over a moderate attendance. The subject for the evening was "The Management of Bees," a paper being read by Mr. Kitley of Redland. With the aid of a modern bar frame hive and appliances he made the subject very interesting, and showed how bees could be made not only profitable, but of much help to those interested in horticulture. He advised those of his audience who contemplated keeping bees to get at least an elementary knowledge of the subject before commencing, and gave many useful hints on manipulating and the general management of bees. Mr. Kitley was cordially thanked for his lecture. Prizes for three heads of Cauliflower were awarded—first, Mr. Taylor; second, Mr. McCulloch; and a certificate of merit to Mr. W. Marsh for twelve Apples (Cox's Orange Pippin).

— **ROYAL METEOROLOGICAL SOCIETY.**—The opening meeting of this Society for the present session was held on Wednesday evening, the 15th inst., at the Institution of Civil Engineers, Mr. F. C. Bayard, LL.M., President, in the chair. Mr. R. H. Curtis read a paper on "The Diurnal Variation of the Barometer in the British Isles." The principal features of a curve exhibiting the diurnal march of barometrical pressure are two minima and two maxima—the first minimum occurring early in the morning and the second in the afternoon, while the first maximum falls in the forenoon and the second not far from ten o'clock in the evening. In the tropics the oscillation may amount to as much as a tenth of an inch, but its amplitude decreases as the latitude increases, and the greatest amplitude in the British Isles amounts to not much more than 3-100ths of an inch. The author discusses the mean hourly readings of the barometer from twenty-five years' observations, 1871-95, at four observatories maintained by the Meteorological Council—viz., Kew, Aberdeen, Falmouth, and Valencia. The author is of opinion that the primary cause of the diurnal oscillation of the barometer is solar radiation, and that its amplitude is chiefly determined by the temperature of the lower strata of the atmosphere. The relative magnitudes of the different phases of the barometer oscillation, as observed, depend largely upon the geographical position and physical surroundings of the place of observation, in so far as these are capable of modifying its temperature conditions, and especially the relative distribution of temperature over the regions immediately surrounding it. Mr. G. J. Symons, F.R.S., described some experimental observations which he made during the hot weather in July with two thermometers 1 foot below the surface of the ground, with the view of ascertaining (1) the influence of slight shade, (2) the amount of daily range, and (3) the approximate curve of daily fluctuation.

— **SHIRLEY GARDENERS' ASSOCIATION.**—The monthly meeting of above Society took place on Monday evening, the 20th inst., at the Parish Room, Shirley, Southampton, there being a good attendance of members. Mr. B. Ladham, F.R.H.S., presided. There was a good exhibition of Chrysanthemums, and, as it was an open night, an interesting and useful discussion was carried on by the members on the exhibits. Votes of thanks to the exhibitors and the Chairman closed a pleasant evening.

— **NOTES FROM IRELAND.**—At Belleville, Dublin, there is a very fine specimen of *Odontoglossum grande*. This is the home of George Drimmie, Esq., whose plants are under the care of Mr. Byrnes. The *Odontoglossum* consists of three plants, carrying a total of five spikes, each of which bear, one six, three four, and one three blooms respectively. Without exaggerating, it is the finest specimen in flower in this locality. An orangery is somewhat of a novelty in the metropolis, and a visit to Mr. J. Hume Dudgeon's well appointed place at Merville is therefore more than ordinarily interesting. The plants are close on 6 feet high; their chief distinction lies in the size of the fruits and the quantity. They are as large as the Spanish Valencia, yet they lack all the qualities that make them edible. Judging from the specimen Mr. O'Leary gave me, they are useless except for decorative work. In this capacity they offer advantages rarely met with.—A. O'N.

— **NATIONAL AMATEUR GARDENERS (LIVERPOOL BRANCH).**—A highly successful meeting was held on November 16th, the President, W. Histed, Esq., in the chair. Being Chrysanthemum night much interest was centred in the exhibits, which embraced the many styles to which Chrysanthemums adapt themselves. First came the good amateur grower, Mr. D. W. Cangle, his twelve Japanese and six incurved blooms being models of neatness. Other classes for cut blooms were nicely distributed. The basket from Mrs. McGregor was neatly arranged, as were the singles from the same lady. Mr. Drake, who is rapidly making his way as a successful grower of Orchids, staged two very pretty sprays, one being a giant unnamed *Lycaste*. He secured the special prize for them. Mr. J. M. Smyth, the busy Hon. Secretary, gave a most valuable paper on "An Amateur's Greenhouse," pointing out many defects, and drawing some valuable lessons for the benefit of members. Votes of thanks were heartily passed.—R. P. R.

— **LONDON'S OPEN SPACES.**—At a recent meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W., it was stated that the Association had commenced the laying-out of the churchyard of St. Mary's, Plaistow, and that the faculty having been granted for Christ Church, Blackfriars, this ground would shortly be taken in hand. A letter was read from the New River Company declining to allow the Association to deal with the enclosure in Percy Circus as a public garden, but stating that steps were being taken to rescue the ground from its neglected condition. It was agreed to support schemes for the acquisition of Albert Square, E., as a public garden, for the extension of Brookwell Park, and for the conversion of the Latchmere Allotments, Battersea, into a public recreation ground. It was announced that the Acton District Council had accepted the Association's offer of seats for a site near the parish church, and it was decided to offer to plant trees in various thoroughfares in Paddington and elsewhere, and in St. John's Churchyard, Westminster.

METEOROLOGICAL OBSERVATIONS AT CHISWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Temperature of the Soil.			
		At 9 A.M.		Day.	Night	At 9 A.M.			Lowest Temperature on Grass.
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
1899.									
November.									
Sunday ..12	W.S.W.	deg. 47.8	deg. 48.8	deg. 53.1	deg. 39.5	deg. 48.5	deg. 51.4	deg. 52.9	deg. 37.9
Monday ..13	S.W.	44.9	44.5	54.8	37.0	47.5	50.9	52.8	28.4
Tuesday 14	S.W.	48.7	46.0	53.3	39.5	46.9	50.3	52.7	28.7
Wednesday 15	S.E.	38.0	37.8	50.3	34.1	46.2	49.5	52.5	26.9
Thursday 16	N.E.	45.7	43.2	49.7	37.9	46.9	49.5	52.2	30.9
Friday ..17	S.S.E.	43.0	41.3	47.2	36.9	46.2	49.3	52.1	27.3
Saturday 18	S.E.	36.2	35.7	46.1	30.5	45.1	49.1	51.8	22.6
MEANS ..		43.3	41.3	50.5	36.5	46.3	50.0	52.4	29.0

The weather has been dull and cold with a dense smoky fog on the 15th and 16th.

DODDINGTON HALL.

FAMILIAR with gardens in many counties of England, even those more widely distant from London than my native one of Lincolnshire, Doddington Hall, adjacent to the ancient cathedral city of Lincoln, is the first save one in that county of fen and wold and farm to which I have more than very briefly referred in the pages of the *Journal of Horticulture*. To many persons Lincoln as a gardening shire is a name and nothing more, its agricultural renown having overshadowed its horticultural reputation. Amongst its farmers are men with open minds, who have moved with the times and are ever ready to adopt fresh ideas that appear likely to promise improvement in their land or stock, and by whom some of the very best farming in the British Isles is done. Then, too, in addition to these general farmers there are in the South growers who cultivate Snowdrops and Daffodils by the acre, and to these go our greatest bulb merchants, who erstwhile procured the whole of their stocks from the flatlands of Holland. For the gleaner on all matters agricultural Lincolnshire would provide abundant and valuable information. But such was not my object. On a certain Thursday in September I was informed that I "ought to go to Lincoln to see Mr. Ellison's fruit trees at Bracebridge, and proceed thence to Doddington Hall." An hour's consideration decided the point, and on Saturday the journey was undertaken.

An early start was made, and the Great Eastern route was chosen. The country traversed by this great system is rich in interest to all "tillers of the soil," as districts are passed that are celebrated for their horticultural associations. For example, the traveller gets a glimpse of Paul's nurseries, as well as of the great market establishment of the Roehford's, while the passing of Harlow brings vividly to mind the renowned home of the Rivers at Sawbridgeworth. Cambridge has its Botanic Gardens, under the capable Mr. R. Irwin Lynch, and March brings the fen lands with their splendid crops of farm produce. Spalding and Wisbech recall the brightness of spring with its charming Daffodils and pure Snowdrops, while Sleaford is a household word the world over by reason of its long association with the firm of Charles Sharpe, Ltd. Shortly after leaving the latter town the rapidly moving train brings Lincoln's Minster, rising in noble grandeur on the hill of the ancient city, within view. It is a magnificent sight, fitting conclusion to an interesting ride. At Lincoln there are Pennell's, Ilman's and other nurseries that might be visited, with excellent private gardens, but time did not permit of this being done.

Just a brief walk round was made, then steps were turned to the gardens of Bracebridge Manse, and hopes and expectations ran high as to what would be seen. A tramp of two miles, and a most hearty greeting was being received from the reverend-gardener-turner, of whose home it is proposed to give some notes in a future issue. The instructive time here was quickly gone, and the advent of Mr. C. Foster meant immediate preparations for the visit to Doddington, which was reached too late in the evening for the gardens to be seen, but sufficiently early for gardens and gardening to be reviewed and discussed. Mr. Foster will be remembered by many readers as being some time back at Aberpergwm in the Vale of Neath, whence he emerged at frequent intervals with collections of vegetables of such excellence as to win several important prizes, as well as the Sutton cup at Shrewsbury. He had already become a power in the vegetable world when he passed from South Wales to Doddington Hall, the residence of G. E. Jarvis, Esq., since when exhibiting has had to stand behind so that the gardens and grounds might be accorded undivided attention. Let it be hoped, however, that the show arena will feel his presence again in the future.

The manor of Doddington dates back for very many years, and the vicissitudes of its several owners would form the text of a pleasant story. The hall itself, in its very style of architecture, speaks of days long gone by, and it is not difficult to conjure up thoughts of the happenings its ancient rooms have seen. It is a noble structure, approached through a magnificent Tudor archway, within side of which lies a splendid square or courtyard having four beautiful Cedars, whose branches cast a wide and pleasing shade. This is on the eastern or main front of the mansion, of which, unfortunately, a photograph suitable for reproduction could not be secured. There are, too, within and without the courtyard, some handsome Golden Hollies, that are kept carefully clipped to maintain their formal shape, which is so much in keeping with the contiguous structure. To the right of the principal entrance a Magnolia stands, to which we find the following reference in an interesting history of Doddington:—

"Close in front of the hall, encouraged by its shelter, a broad-leaved Magnolia has out-topped the house itself, while at its north-west corner, and nearly equalling it in height, stands the great Holly, its leaves prickless from age, measuring 12 feet round the bole, but with its top now sadly shattered by the storm of Sunday, 24th March, 1895, which split off half its massive head."

The Holly referred to by the historian is shown in the foreground of the illustration (fig. 81), which was reproduced from an excellent photograph taken by Mr. H. M. De Ath, of Lincoln. It is said to be one of the largest Hollies to be seen in the country. Immediately at the foot of its huge trunk is the door that gives on the western garden, whose walls continue from those of the mansion. It is a charming retreat, quiet and secluded, and it is no wonder that Mrs. Jarvis, who is passionately fond of flowers, finds delight in its upkeep. As it was not laid out in true keeping with the mansion plans were recently produced by Mr. Goldring, of Kew, and the initial steps towards the change have been made. When this undertaking reaches completion the harmony will be perfect, as the plan is for a Tudor garden of the formal design of the period, and which is simply a replica of the architectural features. Apart from this the garden has a charming old world air, and includes in its broad borders many of those delightfully fragrant flowers of simple beauty to which our forbears were so ardently attached.

The walls surrounding this garden are almost wholly covered with numerous plants, which clothe it with verdure in the spring and summer months. There are those that flower in the early spring, and others whose floricultural beauties are displayed during the summer, and it is a notable fact that several, though not all, are deliciously perfumed. Undoubtedly the most conspicuous wall plant is an old *Wistaria sinensis*, whose arms extend on each side of the main trunk for an enormous distance. The branches rise one above the other to the summit of the wall, and the picture, when the hundreds of flowers are at their best, must be a most delightful one. Clematises are observable in considerable numbers, and by the diversity of form in their flowers add a feature that is always much appreciated. The clipped Conifers, the old-fashioned herbaceous flowers, the many trees—including a shapely specimen of *Taxodium distichum*—all play their respective parts in adorning a scene that is ever fair and beautiful.

The trees in the gardens at both sides of the house and in the surrounding grounds are in many instances strikingly handsome. In addition to the Holly previously noted, there are several Wellingtonias, and some magnificent Spanish Chestnuts. Three of these form a clump, and it would be no easy task to find a handsomer trio. The largest has a girth of 23 feet 1 yard above the ground, and is much larger higher up. Elms are numerous and particularly good, as are Walnuts. The latter trees are not perhaps so conspicuous for their height as for the number, size, and quality of the nuts they annually produce. The Bastard Cork Oak, *Quercus pseudo-suber*, Magnolias in variety, *Cerasus* (*Prunus*) *padus*, the Bird Cherry, and *Dimorphanthus mandshuricus* are amongst the many others that attracted prominent attention, either for their size or some other peculiarity.

The vegetable garden at Doddington is possibly unique. It is of no modern foundation as is evidenced on every hand, but has probably been formed over a century. The main walks are flanked by clipped hedges of Yew, Box, and Thuia, these being about 3½ feet high, and as much through at the base. Over the top, which is rounded, they measure some 10 or 12 inches. Almost in the centre of the garden is a large round pond, encircled with a broad border of herbaceous and other plants, from which bushels of flowers can be cut with scarcely an effort, and without marring the general effect. The pond is approached from one side beneath a rustic archway, on which the ubiquitous Crimson Rambler is making itself at home. Fruit trees are numerous and varied both in kind and character. Many of the Apples and Pears have passed their youth scores of years ago, and these are gradually being displaced by young, vigorous specimens, which improve yearly in their cropping properties. Some of the old stagers occupy the walls, while others are in the open ground. The garden will be far more profitable when the last of these has been removed, as they occupy space which can ill be spared and produce little fruit, and that almost invariably inferior.

Remembering Mr. Foster's prowess as a vegetable grower when in previous situations, it is perhaps superfluous to say that this one is a model in keeping. It is admirably cropped with all necessary vegetables, many of which are sufficiently good to win in strong competitions. It was pleasant to learn that Mr. Jarvis was taking the keenest interest in the crops, though this cannot be wondered at when the produce reflects such credit on his garden. Potatoes, Carrots, Parsnips, Beet, Onions, Peas, and green vegetables were alike of the first quality, but there can be no doubt that the most conspicuous crop was Sutton's Best of All Scarlet Runner. The plants of this variety were 13 feet high, and had borne from the base upwards. Many pods had been produced that measured a foot in length, and the bulk had been nothing short of enormous. Pods of this and Autocrat Pea were still being picked at the middle of October, which,

after a dry summer, speaks volumes for the previous preparation of the ground. Just without the west wall of the kitchen garden is a splendid Holly hedge about 12 feet high, which is carefully tended, and has at its foot a border of hardy flowers.

☞ The glass department is scarcely commensurate with the importance of the other sections of the estate, but excellent use is made of its conveniences. In a span-roofed orchard house are numbers of Plums, Gages, Peaches, and Nectarines, which give capital annual returns. One plant of Stanwick Elruge Nectarine has this season produced over twenty dozen good fruits. Melons find room in a small span pit, while Vines occupy two lean-to houses. Tomatoes are magnificently produced, and the crop on some plants of a new unnamed variety from Sutton's was astonishing. The fruits were quite smooth, of medium size, rich colour, and excellent flavour. Polegate also bears heavily. The collection of plants is not par-

a number of fine plants of *Salvia fulgens*, which were very showy amid a graceful massing of Ferns and Eulalias; the second prize, though very tasty, was somewhat too open to be effective. Primulas were a very nice feature, but the single varieties on view demand no special comment.

Cut blooms were simply grand; the long lines of massive blossoms appeared very striking. The big class for two dozen Japanese was a feature, the collection from the Blenheim Gardens overtopping the others for size and quality. The varieties were:—Back row: Madame Carnot, Vivian Morel, Mrs. H. Weeks (chosen as the finest Jap in the whole show) Mrs. White Popham, G. J. Warren, Baron de Rothschild, Mrs. C. H. Payne. Middle row: Edith Tabor, Simplicity, C. W. Richardson, Australie, Le Grand Dragon, Miss Elsie Teichman, President Nonin. Front row: Madame Dela, Mary Molyneux, Phœbus, Swanley Giant, Abbé Mendenhall, Czarina, and Madame Philip Rivoire. In the second prize stand the blooms were large and beautifully bright, but contained fewer new varieties. The class for a dozen blooms of one variety is



Photo by Mr. H. M. De Ath.

Lincoln.

FIG. 81.—DODDINGTON HALL.

ticularly large, and mainly embodies such as can be used in the house when occasion demands, and more than that cannot now be said. Time flies, and, much as a longer stay would have been enjoyed, it was quickly necessary to bid adieu to Doddington and Mr. and Mrs. Foster, for whose kindness I would hereby accord my hearty thanks.—H. J. WRIGHT.

SHOWS.

OXFORD.—NOVEMBER 14TH.

THE Oxfordshire Society held its thirty-seventh November exhibition in the Town Hall, Oxford, on Tuesday the 14th, and, favoured with fine weather, it proved an unqualified success. Interest generally centred on the groups for effect, arranged at the far end of the hall, that from the Blenheim Gardens being noted as carrying flowers, any of which would have been fit to have exhibited as specimen blooms. The second prize group of Chrysanthemums was altogether creditable. The two groups of mixed plants were very dissimilar, that taking the card having

always a showy section, the cards going first to Tiddington House Gardens for a grand dozen of Australian Gold, the second to Madame Carnot, the third to Mona, Chenon de Leché. There were eight stands of three varieties of Japs, four blooms of each, the card again going to the Blenheim Gardens for massive blooms of Mrs. C. H. Payne, Mrs. H. Weeks, immense flowers; and Mrs. Panckoucke; the second prize falling to the Marston Hill Gardens, Fairford, with Graphic, Lady Hanham, and Robert Powell. Incurred varieties are now much larger than formerly, the premier two dozen, from Fairford, being generally high, full-centred examples of Ma Perfection, Mrs. W. C. Egan, Topaze Orientale, Lady Isobel, Duchess of Fife, Miss M. A. Haggas, Miss Dorothy Foster, and Madame Ferlat. For one bloom Blenheim Gardens again secured the first card for a dozen from one variety incurred, with Ma Perfection, a bloom of which was selected as the premier in the whole show; the second twelve were Duchess of Fife, the third falling to C. H. Curtis. Large flower Anemones were admirably shown, and Pompons and Anemone Pompons were exceedingly interesting.

The epergnes for dinner table were a fair average, but the one from Blenheim was largely composed of Orchids, such as *Cattleya labiata*,

Dendrobium phalaenopsis Schröderianum, Lily of the Valley, and *Asparagus plumosus*.

The fruit formed an extensive display. Many hundred of Apples were staged, but the Pears this season were not as good as usual. Vegetables made a wonderful fine exhibition; indeed, nearly all the visitors wondered how, in such a dry summer, such examples could be produced.

Special mention should be made of a very excellent exhibit of specimen plants of *Begonia Gloire de Lorraine*. These were sent from Blenheim Palace, and were greatly admired from their presenting such a lovely mass of flowers. There was a large attendance during the afternoon and evening.

Three large flowering and three Japanese.—First, Miss Greswell, 70, Woodstock Road; second, Mr. J. Beesley, 74, Marlborough Road. Japanese, six.—First, Mr. A. E. Kirtland, Bletchington; second, Miss Greswell; third, Mr. J. Beesley. Groups of plants arranged for effect on space 12 feet by 7 feet.—First, the Duke of Marlborough (gardener, Mr. T. Whillans); second, Miss Bull, Arcott House, Woodstock Road. Group of autumn flowering and foliage plants, arranged for effect on 48 feet superficial.—First, Mr. W. T. Mattock, Barton, Headington; second, Mr. F. Perkins, Blenheim Nursery, Woodstock Road.

For incurved, twenty-four, not less than fifteen varieties.—First, Mr. F. P. Bulley, Marston Hill, Fairford (gardener, Mr. G. Price); second, Mr. W. J. Johnson, Horse Fair, Banbury; third, Mr. A. E. Kirtland. Ditto, twelve distinct.—First, Mr. J. L. Burgess, Maisey Hampton, Fairford (gardener, Mr. A. Humphries); second, Mr. G. W. Bennett, Tiddington House (gardener, Mr. C. Marcham). Ditto, premier bloom.—First, the Duke of Marlborough; second, Mr. F. P. Bulley; third, Mr. A. E. Kirtland. Ditto, twelve, one variety.—First, the Duke of Marlborough; second, Mr. J. L. Burgess; third, Mr. G. W. Bennett. Reflexed, twelve.—First, Mr. F. P. Bulley; second, Mr. A. E. Kirtland; third, Dr. Neil, Warneford Asylum (gardener, Mr. A. Whitehead). Anemone, large flower, twelve.—First, Mr. W. J. Johnson; second, Mr. F. P. Bulley; third, Mr. A. E. Kirtland. Ditto, six.—First, Mr. W. J. Johnson; second, Mr. F. P. Bulley; third, Mr. J. L. Burgess.

Japanese, twenty-four distinct varieties.—First, the Duke of Marlborough; second, Mr. G. W. Bennett; third, Mr. J. R. Tranter, Henley-on-Thames. Ditto, twelve.—First, Mr. F. P. Bulley; second, Mr. G. H. Morrell, Headington Hill Hall (gardener, Mr. W. Howell); third, Mr. D. J. Macfarlane, Cornbury Park Gardens. Ditto, nine.—First, Mr. J. L. Burgess; second, Mrs. Brookes, Middle Aston House (gardener, Mr. R. T. Howell); third, Dr. Neil. Ditto, one bloom, premier.—First, the Duke of Marlborough; second, Mr. T. Milner; third, Mr. F. P. Bulley. Ditto, twelve, four each of three varieties.—First, the Duke of Marlborough; second, Mr. F. P. Bulley; third, Mr. J. R. Tranter. Ditto twelve, one variety.—First, Mr. G. W. Bennett; second, Mr. D. J. Macfarlane; third, Mr. A. Harcourt, Nuneham Park (gardener, Mr. C. E. Munday). Pompons, twelve varieties, three blooms each.—First, Mr. F. P. Bulley; second, Mr. A. E. Kirtland. Ditto, Anemone, nine.—First, Mr. F. P. Bulley; second, Mr. A. E. Kirtland. Table decoration, one piece.—First, the Duke of Marlborough; second, Mr. G. Jacob; third, Mr. W. T. Mattock.

BELFAST.—NOVEMBER 14TH AND 15TH.

THE eleventh annual display was held on the above dates, Tuesday and Wednesday, and from the substantial increase of the entries, as well as the businesslike activity displayed by the Committee, it should have proved financially successful. The venue was the covered market of St. George's Square, and the Duchess of Abercorn undertook the task of opening; she was accompanied by the Lord Mayor of Belfast and a representative party.

For a group of Chrysanthemums not to exceed twenty pots, Palms to be used for effect, the winner proved to be Robert Tennant, Esq., Rush Park, Whitehouse (gardener, Mr. J. McIlveen); second, Wm. Robertson, Esq., Netherleigh, Strandtown (gardener, Mr. P. McHaffie); third, John Lepper, Esq., Fairacre, Fitzwilliam Park (gardener, Mr. I. McDonald). For a smaller group first was won by A. D. Lemon, Esq., Edgcombe, Strandtown (gardener, Mr. H. Kirkpatrick); second by J. D. Barbour, Esq., Conway, Dunecurry (gardener, Mr. R. Draper). The stand of twenty vases of Japanese in twenty distinct varieties, each represented by three blooms, brought several well-known exhibitors. Captain Stirling, of Keir, Dunblane, N.B. (gardener, Mr. T. Lunt), was first with an excellent arrangement of Louise, Mary Molyneux, Lady Ridgway, W. H. Weeks, J. Bidehope, Phoebe, Mrs. Mease, Pride of Maford, Robert Powell, Mrs. G. W. Palmer, Lady Byron, Oceana, Mons. Chenon de Leché, Australia, and one or two others. Lord Ashbrook, Durrrow, Queen's County (gardener, Mr. J. McKellar), was an exceptionally close second. On this stand Mrs. J. Lewis was selected as the premier bloom. The Earl of Harrington, Elvaston Castle, Derby (gardener, Mr. G. H. Goodacre) came third.

For a stand of forty-eight Japanese, in at least thirty-six varieties, and not more than two of any variety, Lord Ashbrook secured an easy first with Eva Knowles, Swanley Giant, Colonel W. B. Smith, Mrs. W. Popham, Nellie Pickett, J. Bidehope, Mrs. Mease, Graphic, Ella Curtis, Madame Carnot, Charles Davis, Lord Ludlow, Mons. Hoste, and Mrs. Lewis. The Marquis of Downshire, Hillborough Castle (gardener, Mr. J. Bradshaw), came second. Third, Thos. Torrens, Esq., Edenmore, White Abbey. For a similar stand, but confined to Ulster, the Marquis of Downshire was first; J. H. Torrens, Esq., second; and Lieutenant R. G. B. Crawford, Crawfordsburn House, third.

The class for a stand of twenty-four incurved, in at least eighteen varieties, not more than two of any variety, did not bring forth many

contributors. The Marquis of Downshire was first with Mrs. V. Foster, Baron Hirsch, Jeanne d'Arc, Madame Ferlat, C. H. Curtis, Lord Alcester, Lady Isobel, Perfection, and James Agate. Thomas H. Torrens, Esq., came second, Lady Isobel in this stand being the premier incurved. For a stand of twelve incurved, distinct, John Torrens, Esq., took the premier place. Second, Lady Emily Bury, Charleville Forest, Tullamore (gardener, Mr. R. McKenna). Third, Lord Ashbrook. To allude to the many lesser stands for the display of this flower would take up more space than can possibly be given.

Mr. McKimm, Curator Botanic Gardens, Belfast, displayed a woodland scene. The plants utilised comprised Palms, Dracenas, and Cycads, whilst *Euonymus* and *Alcasias* were used for border effect, *Araucarias* as a background, also some fine examples of *Metrosideros tomentosa*. Mr. J. Dickson, Curator of Ormeau Park, staged an enormous bed of early flowering Chrysanthemums, Crotons, *Euonymus*, *Caladiums*, and *Acalyphas*, edged with *Echeverias*. Messrs. Hugh Dickson of Belfast had a collection of Conifers and climbers; Messrs. Alexander Dickson of Newtownards had a superb display of fruit, likewise a stand of vegetables; Messrs. I. House & Son, Bristol, staged a group of splendid Violets; Messrs. Wells & Co., Earlswood Nurseries, Surrey, had a very fine display of Chrysanthemums, as also had Messrs. Clibran & Sons, Altrincham.

CHESTER.—NOVEMBER 14TH AND 15TH.

THE spacious Assembly Rooms and vestibule of the Chester Town Hall were occupied on the above dates by the tenth annual exhibition of fruits and Chrysanthemums, held under the auspices of the Paxton Society. This organisation is to be congratulated upon having staged an exhibition which in every respect maintained the reputation which it has earned for its excellent shows. The most attractive exhibits were the five large groups of Chrysanthemums, the premier honours of which fell to Mrs. Hudson, Bache Hall, Chester, per Mr. Stubbs, gardener. The quality of blooms and general arrangement here left little or nothing to be desired. Edward Dixon, Esq., Littleton Hall, per Mr. John Dutton, followed with a very creditable second, the third and fourth prizes being awarded respectively to Mrs. McLaren, Curzon Park, and Mrs. Arthur Potts, Hoole Hall.

The prizes in the cut bloom sections were also keenly competed for, the principal honours falling to Sir George Meyrick, Bart., Bodorgan, per Mr. Pilgrim; Miss Humberston, Newton Hall, per Mr. Wakefield; and Captain Fielden, R.E., Mollington, per Mr. Worker. A very fine stand of naturally grown cut blooms exhibited by Mrs. Townsend Ince, Christleton Hall, per Mr. Thomas Weaver, gardener, also carried off first honours.

Considering the adverse season, the hardy fruit exhibits exceeded the expectations of the Committee both in point of number and quality. The prizes for fifty dishes of cooking and dessert Apples were awarded to Messrs. John Watkins, Withington, and Pewtress Brothers, Hereford respectively. For the best collection of dessert Apples, Mrs. Pochin, Bodnant Hall, per Mr. J. Sanderson, carried off the first prize, the fruits here showing good size and excellent colour. For the best collection of dessert Pears, chief honours fell to Rev. L. Garnett, Christleton Rectory.

For the best collection of twenty-four dishes of kitchen Apples, Lord Combermere, per Mr. E. Severn, gardener, took first prize, being closely followed by Edward Paul, Esq., Barrow, per Mr. Fletcher, who secured second honours. Although Pears were not largely represented, the quality was above the average, some very fine dishes of Doyenné du Comice, Beurré Diel, Winter Nelis, and other leading sorts being staged. Bottled fruits and Tomatoes were also well represented.

Amongst the honorary exhibits special mention should be made of that sent by his Grace the Duke of Westminster, K.G., per Mr. N. F. Barnes, to whom the Society's gold medal was awarded. Messrs. Dicksons, the well-known nurserymen of Chester, Messrs. McHattie & Co., Chester, and the Hon. Mrs. Edward Kenyon, Maesfen, also sent interesting exhibits.

The Executive Committee were: Mr. John Wynne, President; Messrs. N. F. Barnes, John Jackson, John Dutton, A. Eiams, S. Garner, Stephen May, Wm. Pringle, Herbert Rowe, Joseph Ryder, J. D. Siddall, Edwin Stubbs, John Taylor, Thomas Weaver, Robert Wakefield, John Weaver, and G. P. Miln, Hon. Sec., and they are to be congratulated upon what has proved to be the best exhibition of its kind ever held in Chester.

WINCHESTER.—NOVEMBER 14TH AND 15TH.

No more complete or effective autumn exhibition is held during the Chrysanthemum season than that of the Winchester Horticultural Society. The present show was one of the best yet held, groups of Chrysanthemums were splendid, cut blooms numerous, Chrysanthemums grown as conservatory plants were extensive and excellent, while vegetables and fruit leave little, if anything, to be desired. The arrangements were admirable under the management of Mr. C. Shenton, the Hon. Secretary, and an efficient Committee of practical men.

Groups of Chrysanthemums were not numerous, but magnificent in quality. Mr. E. H. Street, gardener to Rev. Dr. Pearson, The College, Winchester, won the premier award with plants ranging from 2 feet to 4 feet in height, well clothed with foliage and carrying exhibition blooms of both incurved and Japanese varieties. Mr. G. Newman, gardener to Captain Gausson, Twyford Lodge, Winchester, was a capital second; Mr. R. Stone, gardener to the Ven. Archdeacon Haigh, The Close, Winchester, a close third.

Much encouragement is given here for plants grown in 9-inch pots suitable for conservatory decoration. For six distinct eight competed. Mr. E. Adams, gardener to Col. F. A. Dickins, Edge Hill, Winchester,

won the premier award with dwarf plants carrying extremely fine blooms of C. Davis, Ma Perfection, Vivian Morel and M. Chenon de Leché; Mr. H. Gigg, gardener to Rev. R. M. Moorson, Holyrood, Edgar Road, Winchester, second; Mr. Astridge, gardener to W. Barrow Simmonds, Esq., Abbots Barton, Winchester, third. For six plants, any white flowering varieties, for the same purpose, there were also six competitors. Mr. G. Cousins, gardener to E. H. Buckland, Esq., Kingamead, Winchester, was undisputedly first with marvellous plants of Mrs. Lewis, Madame Carnot, Ma Perfection and Souvenir de la Petite Amie. Mr. Adams was a good second, Mr. Astridge third with freely flowered plants of Madame Carnot. For six yellow flowered varieties there was even brisker competition. Mr. Cousins with plants carrying grand blooms of Phœbus, G. J. Warren and Grandiflora was first, Mr. Grigg second, Mr. H. J. Pettman, gardener to F. L. Starkie, Esq., Oakwood, Otterbourne, third.

Cut blooms were numerous and good. The principal class was for forty-eight, half to be incurved and the remainder Japanese. Mr. Neville, gardener to F. W. Flight, Esq., Twyford, Winchester, was an easy first with beautifully finished, full-sized incurved blooms, and good Japanese. Mr. J. Agate, Havant, was a good second with very fine Japanese but smaller incurved. Mr. J. B. Prewett, gardener to C. A. Pearson, Esq., Frensham Place, Farnham, third. Six competed for twenty-four Japanese, making a good display. Mr. J. Wasley, gardener to J. B. Taylor, Esq., Sheffield Manor, Basingstoke, was first with a stand of noble blooms; Mr. A. J. Marsh, gardener to M. Hodgson, Esq., Morton House, King's Worthy, second; Mr. Neville third. For twelve Japanese, Mr. L. Dawes, gardener to Mrs. Ogilvie, Rosecroft, Hambledon, secured the leading award with exceedingly fine specimens of popular varieties; Mr. W. Hunt, gardener to B. Moss, Esq., Fern Hill, Blackwater, a good second with a very little inferior stand; Mr. J. Best, gardener to F. D. Leyland, Esq., The Vyne, Basingstoke, third. For twelve white blooms in four varieties, Mr. Wasley staged Elsie Teichman, Madame Carnot, Mrs. J. Lewis, and Mrs. C. Blick in splendid order, and secured the premier place; Mr. Neville was second. In a similar class for yellow flowered varieties Mr. Wasley was again the most successful, winning with grandly developed specimens of Australian Gold, Phœbus, E. Tabor, and G. J. Warren; Mr. A. J. King, gardener to H. J. G. Lloyd, Esq., Itchell Manor, Crondall, second; Mr. Hunt third, both staging well.

For twelve any colour except white and yellow, Mr. Wasley again won with Vivian Morel, C. Davis, Australia, and Mrs. G. W. Palmer in good condition, Messrs. Neville and Hunt following in the order here given. For twenty-four blooms, any variety, Mr. Wasley again won with a splendid set, Mr. Street occupying a similar position in a class for twelve, as also did he for the local twenty-four. For twelve incurved in four varieties Mr. Neville easily led the way with models of culture and finish of C. Curtis, Madame Ferlat, Miss M. A. Haggas, and Mrs. R. O. Kingston; Mr. Hall, gardener to Lady Louisa Ashburton, Melchet Court, Romsey, second. Mr. Neville also secured the leading award for twelve incurved, distinct, with praiseworthy examples of leading varieties.

Groups of miscellaneous plants, arranged for effect, were a feature of the show. Mr. E. Long, gardener to F. C. Birch, Esq., Christchurch Road, Winchester, succeeded in beating his formidable rival, Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Park, Bishopstoke, with an almost faultless arrangement of suitable plants, Mr. Pittman third. To the classes set apart for ladies much interest was attached. The most tastefully arranged stand of flowers, foliage, and Grasses was contributed by Miss L. M. Kaines, as also was that including Orchids, both pleasing examples of arrangement. Mrs. Jeffrey had the best arranged stand of shrubs, foliage, and Grasses, and a pretty effect it produced.

Messrs. E. Hillier & Son had a magnificent display of Apples arranged in large heaps and baskets in front of the orchestra, and in association with plants contributed greatly to the fine appearance of the Guildhall.

BANBURY.—NOVEMBER 15TH.

THE Banbury Chrysanthemum Show seems still to push on to better things, the annual show, which was opened on Wednesday by the Lady North, being probably the best all-round exhibition in the history of the Society, and was attended by most of the leading people in the neighbourhood. At the time of the opening ceremony the weather was, says the "Banbury Guardian," favourable, though a slight drizzling rain set in later in the day. In Mr. S. J. Mawle, as Hon. Treasurer, and Mr. W. H. Walkley, as Hon. Secretary, the Society have two very earnest workers, and the Assistant Secretary (Mr. F. E. Busby) is courteous and pains-taking in his duties.

The Chrysanthemum blooms, it should be said at the outset, were of all-round excellence, and a most encouraging feature of this year's show was that the prizes attracted exhibitors who have not previously shown here. The offering of the handsome silver challenge cup for the best group of Chrysanthemums was a move in the right direction, and the Duke of Marlborough, who exhibited for the first time, won it, together with a money prize of £4. The group was very much admired, and deservedly so, for it was a fine display. Mr. F. J. Myers, of Charlton Lodge, came second with a group of almost equal merit, Col. Norris, of Swalcliffe Park, being third, and Lord Chesham, of Latimer, fourth. These gentlemen were also successful in many of the other classes, as also was Mr. W. C. Cartwright, of Aynhoe Park; Mr. A. R. Motion, of Upton House; Mr. F. P. Bulley, of Fairford; Mr. T. L. M. Cartwright, of Newbottle Manor; Mr. C. A. Smith-Ryland, of Barford Hill, Warwick; Mr. A. Kirtland, of Bletchington; Mr. W. H. Langham-Brooks, of Nether Worton House; Mr. W. J. Johnson, of North Bar,

Banbury; Captain Cottrell-Dormer, of Rousham Park; Miss Cummings, of Banbury; Mrs. Coleman, of Banbury; Mr. J. P. Gillett, of The Elms, Banbury; Mr. J. Clow, of Banbury; Rev. F. W. Cartwright, Aynhoe Rectory; Mr. W. M. Foster-Melliar, of North Aston, and others.

In the cut bloom section for Japanese the Banbury challenge cup, value 25 guineas (to be held for one year), was won by his Grace the Duke of Marlborough, who also took the first prize, £4; Mr. F. J. Myers of Charlton (gardener, Mr. Buch); Colonel Norris, Swalcliffe (gardener, Mr. F. Daniels); Lord Chesham, Latimer (gardener, Mr. G. Neville), followed. Eighteen distinct varieties.—First, Duke of Marlborough; second, Lord Chesham; third, Mr. W. C. Cartwright, Aynhoe (gardener, Mr. S. Brown). Twelve ditto.—First, Mr. A. R. Motion, Upton House (gardener, Mr. T. G. Flanders); second, Mr. F. P. Bulley, Fairford (gardener, Mr. G. Price); third, Mr. T. L. M. Cartwright, Newbottle Manor (gardener, Mr. G. Stockley). Six, one variety, white.—First, Mr. F. J. Myers; second, Mr. W. C. Cartwright; third, Duke of Marlborough. Six, one variety, any other variety.—First, Colonel Norris; second, Mr. F. J. Myers; third, Duke of Marlborough. One.—First, Mr. F. J. Myers; second, Duke of Marlborough; third, Lord Chesham.

Eighteen incurved, distinct.—First, Mr. W. C. Cartwright; second, Mr. C. A. Smith-Ryland, Barford Hill, Warwick; third, Mr. F. P. Bulley. Twelve ditto.—First, Mr. A. E. Kirtland, Bletchington. Six, one variety.—First, Duke of Marlborough; second, Mr. C. A. Smith-Ryland. One ditto.—First, Duke of Marlborough; second, Mr. W. C. Cartwright; third, Mr. H. Langham-Brooks, Nether Worton House.

For three distinct plants.—First, Rev. F. W. Cartwright; second, Mr. A. E. Kirtland. Incurved varieties.—First, Rev. F. W. Cartwright; second, Mr. A. E. Kirtland. Japanese.—First, Rev. F. W. Cartwright; second, Mr. A. E. Kirtland.

CHIPPENHAM.—NOVEMBER 15TH.

THIS, the third exhibition of the Chippenham Society, was a distinct advance on its predecessors. Two classes were provided for groups of Chrysanthemums, and both were well filled. In that open to all Mr. G. Humphries, Chippenham, was easily first, but in the local class was second to Mr. L. H. Marshall, who exhibited in excellent style.

The first prize for eighteen blooms of Japanese Chrysanthemums, not more than two of one variety to be included, was awarded to Mr. W. J. Penton, gardener to Herbert Harris, Esq., Bowden Hill, Chippenham, who staged fresh massive blooms of Mons. A. de Rothschild, G. J. Warren, Phœbus, Lady Hanham, Queen of Portugal, Vivian Morel, Simplicity, James Myers, Australia, Edith Tabor, Madame Rozain, Good Gracious, Madame Carnot, G. W. Palmer, and M. L. Remy; the last named was a very fine bloom, and gained the silver medal offered for the best flower in the show. The second prize went to Mr. F. W. Vallis, Bromham Fruit Farm, Calne, who staged large deep blooms, several of which had seen better days. Mr. F. Perry, gardener to Captain Spicer, Spye Park, Chippenham, was a creditable third.

For twelve Japanese varieties Mr. Vallis was easily first, showing Simplicity, Pride of Madford, G. J. Warren, Madame Carnot, Osana, Mutual Friend, Vivian Morel, Calvat 99, Chenon de Leché, M. J. Debris, Mrs. J. Lewis and Swanley Giant. Mr. Penton was second and Mr. Perry third. For six varieties Dr. Ferguson was first, and Mr. W. Spinks, gardener to T. Harris, Esq., second. In the class for six blooms of one variety Mr. Vallis was first with fine blooms of Mons. Chenon de Leché; second, Mr. Humphries with Madame Carnot, also good.

The competition was not so keen with incurved varieties. Mr. F. Perry was the most successful with these, Mr. Humphries and Mr. W. Spinks also taking prizes. A grand arrangement of Edith Tabor gained Mr. Penton the premier award in the class for a vase of Chrysanthemums and foliage. The ladies' classes added considerably to the success of the show. There was good competition in the classes for Grapes, collections of fruit, Apples, Pears and vegetables, the most successful exhibitors being Messrs. Penton, Perry and Spinks.

HULL.—NOVEMBER 15TH AND 16TH.

THE annual exhibition was as usual held in the Artillery Barracks, although there was a falling off in the exhibits in the great group class. We suspect it was owing to generalship on the part of some exhibitors who have in the past found it so difficult to obtain prizes here that they preferred to try their fortune elsewhere, for it is well known that the Hull groups are the finest of the kind in the kingdom. Cut blooms were quite up to the high standard of excellence so long displayed at these shows. Table decoration here has long been a feature not excelled anywhere, and this year the competition was even keener and better than ever. The management here might be copied with advantage by many other Societies. As usual one of the Hon. Secretaries, Mr. Dixon, was to be found with bell in hand in front of the clock one minute to ten to give the warning note to exhibitors. Thus the judging is early done, the public admitted at twelve, and half an hour after that time printed copies of the awards were on sale in the Show.

Cut blooms were numerous, Japanese, as usual, predominating. The principal class was for twenty-four, distinct, £10 being offered as the leading inducement. There were five competitors. Mr. C. Crooks, gardener to the Dowager Lady Hindlip, Hadzor House, Droitwich, was first prizewinner with a stand of heavy, well-coloured blooms of the leading varieties. Mr. D. Williams, gardener to the Earl of Feversham, Duncombe Park, Helmsley, was a good second with fresh blooms; Mr. W. Mease, gardener to Alfred Tate, Esq., Downside, Leatherhead, Surrey, a close third.

* For six Japanese, any one variety, there were eight competitors. Mr. R. Walker, gardener to Col. Stacey Clitherow, Hotham Hall, Brough, won the premier award with *Mons. Chenon de Leché* in splendid condition. Mr. Henry Willcock, gardener to A. S. Wilson, Esq., Raywell, Cottingham, was second with grand examples of *Eva Knowles*. Mr. Mease followed with *Nellie Pockett*.

For twenty-four incurved Mr. Crooks was again successful, winning with large well-finished examples of *Mdme. Ferlat* (2), large, *Mrs. W. G. Egan* (2), *Topaze Orientale* (2), *Golden Queen of England*, *Jeanne d'Arc*, *Violet Foster*, *Mrs. Coleman*, *Duchess of Fife*, *Dorothy Foster*, *C. Curtis*, rich (2), *Queen of England*, *Bonnie Dundee*, *Princess of Wales*, *Egyptian*, *Hanwell Glory* (2), *Mdme. Louise Faure*, *Brookleigh Gem*, *Golden Empress* (2). Mr. Mease second.

Anemone blooms were magnificently represented. For twelve, Mr. F. Mason, gardener to Alexander Smith, Esq., Woodleigh, Hasle, was an easy first with grand blooms of *Mrs. W. W. Astor*, *Delaware*, *Ruche d'Abundance*, *John Bunyan*, *Junon*, *Mrs. Judge Benedict*, *Enterprise*, *Owen's Perfection*, and *Tam O'Shanter*. Mr. W. Mason, gardener to Col. A. K. Dibb, Kirk Ella, Hull, was second; Mr. A. Drewery, gardener to Mrs. F. B. Moore, Harland Rise, Cottingham, third. Reflexed varieties were sparsely shown, Mr. R. Walker being the most successful exhibitor.

Pompons, or Anemone Pompons, in nine varieties were plentiful. Mr. A. Drewery won with choice varieties and abundant blossom. Mr. R. J. Walton, Newland Tof: Nursery, second. Single flowered varieties were best shown by Mr. K. Waterhouse, gardener to W. T. Owbridge, Esq., Chenygarth, Cottingham, who was the first prizewinner with grand examples of *Earlwood Glory*, *Framfield Beauty*, *Miss A. Holden*, and *Mary Anderson*. Mr. Walton second.

In the classes set apart for local cultivators there was much competition and a good display. For eighteen incurved, not less than twelve varieties, Mr. J. Down, gardener to H. G. Constable, Esq., Wassand, Hull, was first with medium-sized fresh examples of popular varieties. Mr. G. Wilson, gardener to Sir J. Reckitt, Bart., Swanland Manor, Brough, with larger but rougher examples, was second, and Mr. E. Walker third. For twelve incurved Mr. Walker was the first prizetaker, with good blooms. Mr. C. Jennings, gardener to W. Man, Esq., Walk House, Barrow-on-Humber, second.

Japanese, in eighteen varieties, were represented by nine competitors. Mr. H. Thompson, gardener to C. J. Ringrose, Esq., Cottingham Grange, Hull, was the premier prizewinner, with really good examples. Mr. J. Down was a good second. For twelve Japanese Mr. G. Wilson was first with commendable specimens of popular varieties; Mr. Walker second. The Rundle family is always well staged here in bunches, Mr. Drewery winning with good examples of the type and its sports, Mrs. Dixon and G. Glenny. Mr. Waterhouse second.

Groups of Chrysanthemums arranged with foliage plants to occupy a space of 100 square feet are well provided for. Mr. G. Wilson, gardener to Sir James Reckitt, Bart., secured the coveted award with a thoroughly representative exhibit of large Chrysanthemum blooms, Palms and other foliage plants, well blended together. Mr. H. P. Darling, Holderness Road Nursery, Hull, second. Miscellaneous plants arranged for effect in a circle of 160 square feet brought four competitors. Mr. G. Wilson was again the most successful exhibitor with splendidly grown plants, most artistically disposed. Mr. G. C. Coates, gardener to W. Wheatley, Esq., 256, Anlaby Road, Hull, was a good second. Mr. J. W. Wilson, F.R.H.S., Drevton Stray, a creditable third.

Specimen Chrysanthemums were numerous and good. For three, Mr. V. Waterhouse won premier honours; second, Mr. H. Thompson; third, Mr. W. Mason. For three standard grown plants Mr. H. Thompson was first; Mr. W. Mason second. Bush grown plants were good as usual. For six, Mr. W. Mason was first with exceedingly well grown specimens; Mr. W. Goodhill, 8, Mayfield Avenue, Hull, was second. For six cut-backs Mr. Robert Thirk, Grovehill Road, Beverley, was first; Mr. G. C. Coates second; Mr. C. Welbourn, gardener to Mrs. Boyd, Walkergate House, Beverley, third.

For a dessert table 8 feet by 4 feet, complete for six persons, only Chrysanthemums with foliage or Grasses to be used, with suitable fruit, there were six competitors. Miss Fanny Kirk, Crustwick Hall, Burstwick, was distinctly ahead with an arrangement of white blooms, lightly disposed with Ferns, small Palms, and good fruit. Mrs. H. L. Leonard, Ivy House, Preston, Hull, second. Miss R. E. Carrick, 291, Beverley Road, Hull, third. Hand bouquets, sprays, epergnes, and miscellaneous flowers contributed materially to the beauty of a fine and well-managed exhibition.

SOLIHULL.—NOVEMBER 15TH AND 16TH.

THE ninth annual show was, as usual, held in the Public Hall, and it was undoubtedly—taking the Chrysanthemums, groups and cut specimens, specimen plants, and the vegetables and fruit—the best yet held. As usual, the groups of Chrysanthemum plants arranged for effect proved a great attraction. For a group not to exceed 30 square feet the first prize was deservedly awarded to "Anonymous." The second prize fell to Mr. G. Robbins, gardener to Thos. Hewitt, Esq., Fernleigh, for also a meritorious production; and the third to Mr. D. Bagg, gardener to W. E. Perks, Esq., Ashley, for also a creditable exhibit. For a group not to exceed 20 feet square Mr. W. Brown, gardener to S. Leitner, Esq., Alderbrook, led the way with a tasteful arrangement; the second prize going to Mr. T. Warner, gardener to W. H. Upton, Esq.; and the third to Mr. T. Leeson, gardener to R. S. Chatterick, Esq.

Both Japanese and incurved blooms were well shown, and Mr. T. Davis, gardener to H. Pinnell, Esq., led off with *T. H. Compton*, *Phœbus*, *Mr. H. Crawford*, *Nellie Pockett*, fine; *Mrs. J. W. Barks*, *Madame*

Gustave Henry, fine; *Charles Davis*, *Viviani Morel*, good; *Madame Carnot*, Australia, *Lady Ridgway*, and *Thérèse Panckoucke*. The second prize was secured by Mr. G. Milton, with good blooms of *Waban*, *Phœbus*, *Mr. H. Weeks*, and *Mdme. T. Panckoucke*, and the third prize to Mr. H. Dix. For six blooms Japanese, Messrs. W. Brown, T. Neale, and T. Leeson were the respective winners with good examples.

For twelve incurved, Mr. G. Robbins was to the front with excellent examples, unnamed; the second prize going to "Anonymous," and the third to Mr. D. Bagg. For six blooms, Mr. W. Brown, Mr. T. Davis, and Mr. T. Warner were the winners. Anemones were exceedingly well shown, and it is a class worthy of extended cultivation. Here Mr. T. Warner proved victorious, with a very close second in Mr. D. Bagg, and Mr. G. Robbins the third position. The premier bloom was *Nellie Pockett*, a fine example selected from the first prize stand of twelve blooms belonging to Mr. T. Davis.

An interesting and excellent class was that of six Japanese blooms to be shown in a vase, decorative foliage allowed. Mr. G. Milton was placed first, Mr. G. Robbins second, and Mr. H. Dix third. The flowers were artistically arranged in ornamental vases. For a box of twelve Japanese varieties arranged with foliage for effect Mr. G. Robbins won with fine examples, the second prize falling to Mr. H. Dix for very good blooms—somewhat badly set up, and the third went to Mr. D. Bagg. For a box of six blooms Mr. G. Milton came to the front with very good examples, with Mr. W. Brown and Mr. T. Warner close in the rear.

SUTTON COLDFIELD.—NOVEMBER 15TH AND 16TH.

THIS ancient Royal Borough is not only noted for its picturesque and fine old park, but for its flourishing Gardeners' Mutual Improvement Association; and its fourteenth exhibition, held on the above dates in the Town Hall, proved to be, so far as the Chrysanthemums especially were concerned, the best yet held. The eight groups arranged for effect constituted a show of themselves. The premier prize was adjudged to Mr. A. Jenkins, gardener to A. W. Wills, Esq., Clargate, Wyld Green. The second position was secured by Mr. J. E. Pears, gardener to H. Thorpe, Esq., Manor Hill; and the third by Mr. J. Ward, gardener to G. E. Lowe, Esq., Oakhurst; and an extra prize to Mr. W. Godwin.

For three plants, Japanese varieties, Mr. J. Masser secured the first, and Mr. W. Pearce, gardener to Mrs. Jerome, Holland House, the second prizes, with very good specimens. For one specimen Mr. T. Amphlett, gardener to C. T. Emery, Esq., Wyloe Green, was accorded the first prize, Mr. W. J. Godwin the second, and Mr. W. Pearce the third. For one specimen Pompon Mr. Amphlett was the only exhibitor. For a basket of dwarf Chrysanthemum plants arranged for effect, Mr. J. G. Pears was to the front, the second prize falling to Mr. A. Jenkins, and the third to Mr. W. Pearce.

Cut blooms were well shown, and Mr. H. Jenkins secured the first prize with an excellent stand of twelve, comprising *Madame Carnot*, *Mrs. White Popham*, *Marie Calvat*, *Celeste Falconet*, *Austalie*, *G. J. Warren*, *Viviani Morel*, *Mrs. H. Weeks*, and *Lady Hanham*. The second prize was awarded to Mr. T. Amphlett. Mr. J. E. Pears was given the third prize. Incurved were fair, and Mr. H. Jenkins led off with *Dorothy Foster*, *President Bevan*, *Duchess of Fife*, *O. H. Curtis*, *Madame Ferlat*, *Globe d'Or*, and *Lucy Kendall*. The second prize fell to Mr. H. Humphreys, and the third to Mr. Amphlett. For six bunches single varieties, the first prize fell to Mr. G. T. Grove (the Hon. Secretary), the second to Mr. A. Jeffs, and the third to Mr. A. Jenkins.

For three blooms of white Japanese with not less than 9 inches of stem, to be shown in vases, Mr. A. Jenkins was to the front with *Madame Carnot*, and Mr. J. Masser came in second. For six blooms, distinct, any variety of Chrysanthemum, the prizes were awarded in the following order of names:—Messrs. J. Masser, A. Jeffs, T. Amphlett, and an extra prize to Mr. J. Jones. For a shower bouquet Mr. G. T. Grove was first, and Mr. A. Jeffs second.

For a group of Chrysanthemum plants by single-handed gardeners and amateurs, the first prize was won by Mr. J. Masser with a very pretty arrangement of fine blooms, the second prize going to Mr. A. Jeffs, and the third to Mr. C. H. Hampton, Sutton Coldfield, and extra prizes to Messrs. A. Frisewood and W. Godwin.

YORK.—NOVEMBER 15TH, 16TH, AND 17TH.

THE Ancient Society of York Florists held its twentieth show on the above dates in the Exhibition Buildings. It would perhaps be difficult to find a place more suitable for the purpose, as the different exhibits can be staged to the best advantage. The show was one of the best ever held in the city. The groups, which were a weak feature last year, were excellent, the Judges pronouncing them to be some of the best they had seen. The cut flower section was well filled, and some capital collections were staged. Fruit and vegetables were well shown, and of high quality.

For a group of Chrysanthemums interspersed with foliage plants arranged for effect, there were five competitors. Mr. G. Jarvis, gardener to Mrs. Whitaker, Cliff House, Hull, was first. The Chrysanthemums were good, and well arranged with Palms, Crotons, Aralias, and other plants. Mr. G. Cottam, Cottingham, was second. There were some graceful foliage plants in this group, but the Chrysanthemums were poor. Mr. McIntyre, gardener to Mrs. G. Pease, Darlington, was third, and Mr. J. Kay fourth. There were the same number of competitors for a group of Chrysanthemums arranged for effect, cultural excellency only to be the basis of merit. Mr. Pettinger, Harrogate, was an easy first, his group being well and evenly arranged, the plants good, and the flowers clean and bright. Mr. J. W. Hields, Acomb, was second; F. Middlebrook, Esq., third, and Mrs. Whitaker fourth.

In the class for thirty-six blooms—eighteen incurved, not less than twelve varieties; and eighteen Japanese, not less than twelve varieties, or more than two blooms of one variety—there were six entries, and Mr. J. P. Leadbetter, gardener to A. Wilson, Esq., Trauby Croft, Hull, was awarded premier position. The varieties were Mrs. G. W. Palmer, Edith Tabor, Etoile de Lyon, Mary Molyneux, Julia Scaramanga, Eva Knowles, Phœbus, Mrs. J. Lewis, Madame G. Bruant, Secrétaire Kierens, N.C.S. Jubilee, Nellie Pockett, Mrs. C. H. Payne, Mdme. Gustave Henri, Ella Curtis, Miss Dorothy Seward, and Vivand Morel—Japanese; Duchess of Fife, C. H. Curtis, Mrs. R. C. Kingston, Miss V. Foster, Ma Perfection, Globe d'Or, Mrs. N. Molyneux, Miss D. Foster, Princess of Wales, Lady Isobel, Miss Haggas, and Nehemiah Bruant—incurved. Mr. W. Folkard, gardener to Sir J. Walker, Sand Hutton, was second; Alderman Harding, Darlington, third; and Miss C. Rawson, Halifax, fourth. Mr. Folkard repeated his successes of last year by taking all the first prizes in the classes for incurved, staging some very good blooms. Mrs. Whitaker was second for eighteen, Alderman Harding second for twelve, and G. H. Anderson, Esq., second for six.

In the six classes for Japanese, Mr. D. Williams, gardener to the Earl of Feversham, was a good companion to Mr. Folkard, taking all the first prizes. The Rye-croft silver-gilt medal is added to the first prize for eighteen blooms. Mr. Folkard was second, Capt. C. Duncombe third, J. D. Hutchinson fourth. Mr. Folkard was also second for twelve blooms, and for six of one variety, white, staging the same variety as Mr. Williams—Mrs. J. Lewis. For six blooms, one variety, excepting white, Mr. Williams staged Vivand Morel, and Mr. J. E. Wade, N.C.S. Jubilee. For six yellow blooms Mr. Williams had Edith Tabor, and for six golden-yellow, President Nonin; J. R. Pease, Esq., being second in the former class with Phœbus.

A new feature was introduced this year in the form of a drawing-room mirror decoration or panel group of Chrysanthemum plants in bloom interspersed with foliage, plants most tastefully arranged, mirror 3 feet wide, 7 feet high, standing against wall, a space $4\frac{1}{2}$ feet by 3 feet in front, ledge on top, side brackets allowed, not to exceed 9 inches margin. The first prize was awarded to Mr. Everard, gardener to Mrs. Gutch, York. Good plants were used and well arranged, but rather heavy. Mr. G. Cottam was second with a lighter arrangement, but lacking colour; Messrs. R. Simpson & Son were third, and Mrs. Whitaker fourth.

For six bunches Grapes, three varieties, two bunches of each, Mr. J. Allsopp, gardener to Lord Hotham, was first, staging Black Alicante, Mrs. Pearson, and Muscat of Alexandria; Mr. W. Allsopp, gardener to Hon. F. J. S. Foljambe, Osberton, second, with Black Alicante, Muscat of Alexandria, and Gros Guillaume; Lord Barnard third; Mr. McIndoe fourth. Mr. Folkard was first for two bunches of black Grapes with Black Alicante; Mr. J. Allsopp second. The prizes for two bunches of white Grapes were taken by these exhibitors in the same order. For a collection of dessert fruit, six distinct varieties, two bunches each of two varieties of Grapes, two dishes Pears, two dishes Apples, Mr. J. McIndoe was first with Gros Guillaume and Lady Downe's Grapes, Doyenné du Comice and Pitmaston Duchess Pears, Cox's Orange and Ribston Pippin Apples; Mr. J. Allsopp second; Mr. Tullett third.

Apples and Pears were well shown, but not in such great quantity as we have seen them. The show of vegetables was very good, the prizes for collections being taken mostly by local exhibitors. Honorary exhibitors were Messrs. Clibrans, Altrincham; J. Forbes, Hawick; Isaac House & Son, Bristol; and M. Walshaw, but want of space will not allow us to particularise.

BOLTON.—NOVEMBER 17TH AND 18TH.

THE Committee of the Bolton Society most certainly surpassed themselves for beauty of arrangement and quality of exhibits. The latter was exceptional, and if some of the classes were not so hotly contested it was not the fault of the Society, but solely on account of those "laggards" who enter and do not even send a word of excuse for their non-appearance, thereby putting the stagers to no inconsiderable trouble.

Cut blooms in the open classes, in which in addition to splendid money prizes there were two silver cups, the one valued at 20 guineas (to be won twice in succession), and which only brought out three entries. This was for eighteen Japanese and eighteen incurved, the prize being awarded to Mr. C. Crooks, gardener to the Dowager Lady Hindlip, Droitwich, with beautifully finished flowers in both sections, the varieties being Mons. Panckoucke, Madame Carnot, Mrs. G. W. Palmer, Mrs. Mease, Australia, G. J. Warren, Vivand Morel, Pride of Madford, Madame Louis Remy, Elthorne Beauty, Phœbus, Madame G. Henri, Edith Tabor, Nellie Pockett, Le Grand Dragon, Mrs. Weeks, Celeste Falconet, and Mons. Chenon de Leché. Incurved: Chrysanthémiste Bruant, Madame Ferlat, C. H. Curtis, Mrs. Egan, Topaze Orientale, Duchess of Fife, Princess of Wales, Hanwell Glory, Mdme. Lucie Faure, Mons. Desblanc, Queen of England, Dorothy Foster, Empress of India, Egyptian, Brookleigh Gem, Bonnie Dundee, Lord Rosebery, and Mrs. S. Coleman. Mr. W. Whittle, gardener to R. G. Allan, Esq., Aigburth, although a trifle loose in some of his Japanese, was an extra good second; and Mr. Robinson, gardener to R. Harley, Esq., Hereford, a close third.

Again to the front came Mr. Crooks for twelve Japanese and twelve incurved. It suffices to say that the stand was an excellent one, varieties being similar to preceding class. Mr. Whittle very closely followed, incurved being fine; Mr. J. Howard, gardener to S. Taylor Chadwick, Esq., Beaumaris, was third, and Mr. Robinson fourth. A rather bold class was for twelve vases of Chrysanthemums, stems not less than 15 inches long, three flowers in each, vases provided by the Society. A fine competition ensued, Mr. Whittle being the winner with capital flowers,

with Mr. H. Shone, gardener to J. W. Makant, Esq., Gilson Lodge Bolton, a good second.

Coming to the local classes the advance is remarkable, and this is more than apparent in the case of Mr. J. Wainwright, gardener to Miss Mabel Cross, who won the challenge cup given by the President, Edward Thwaites, Esq., with a splendid stand, incurved being equal to many in the show. Mr. H. Shone came in a good second. In the classes for twelve Japanese and twelve incurved Mr. Wainwright again showed splendid culture, Mr. Shone taking second honours with really good quality. The vases for six varieties again awakened interest, Mr. W. Eekersley winning.

The plants, too, arranged on the front of the orchestra, formed an improvement, and gave floor space for the public to enjoy the show without unduly overcrowding. Groups, miscellaneous, have certainly surpassed anything seen this season at an autumn show. There were gems in every respect, and the winners, Mr. Jones, gardener to Mrs. Shaw, Wellesley House, was placed in position with an admirable arrangement, showing much skill; but there was little to choose between it and that placed second to Mr. Shone's credit. Mr. Jones takes the handsome cup for the first time, and which has been presented by J. W. Makant, Esq. Another charming feature of the show was an artistic arrangement of plants, 7 feet by 5 feet, with a mirror at the back. Three turned out, and beautifully they worked, Mr. J. Abbot, gardener to J. Musgrave, Esq., winning the post of honour. Mr. G. Pawson, gardener to Jno Heywood, Esq., came second, and Mr. J. Ferguson, gardener to J. Taylor, Esq., Bloomfield, third. The plants were up to the usual Bolton character, Mr. Shone having an excellent six large flowered, Mr. J. Hicks, gardener to Mrs. Haslam, a beautiful four singles. Primulas and Roman Hyacinths were splendid, Mr. G. Cross, gardener to Ed. Thwaites, Esq., and Mr. E. J. Castree, gardener to G. Shaw, Esq., Pinnington Hall, winning. The latter staged a perfect stand of vegetables.

Fruit classes were never so well to the fore, but local growers kept to their own classes, thereby leaving Mr. J. Wright, gardener to Edward Lord, Esq., to take the open class, Mr. Shone and Mr. G. Corbet, gardener to Ernest Knowles, Esq., winning with black and white Grapes.

MANCHESTER.—NOVEMBER 16TH, 17TH, AND 18TH.

MANCHESTER was robbed of the two central positions in the city—viz., the Town Hall and St. James' Hall—and the Society was forced to take the Show to the Botanic Gardens, Old Trafford. Whether this will prove a financial success remains to be seen; but on one point there can be no two opinions, and that is, the public could not have had a more ideal place, for every bloom and plant could be seen to perfection, the fine groups and cut blooms being most convincing, arranged as they were in conjunction with the grand display of Orchids brought together by the trade.

The great centre of attraction was the magnificent "Derby" challenge cup, value 25 guineas, given by the President (the Right Hon. the Earl of Derby, K.G.), and with it a cash prize of £10, the required number of blooms being twenty-four Japanese and twenty-four incurved, distinct. Unfortunately for the Society, there were only two competing. The stipulation was that the cup must be won by the same exhibitor two years (not necessarily in succession), and Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, never carried off a prize so easily, the incurved being of the highest merit, with richly coloured Japanese. Mrs. Mease, Lionel Humphrey, Miss Maud Douglas, Yellow Carnot, Mrs. Palmer, Lady Hanham, Australia, Madame Carnot, Mrs. Coombes, Phœbus, Chenon de Leché, Master H. Tucker, Snowdrift, Pride of Madford, Le Grand Dragon, Mrs. Barolay, Mutual Friend, Emily Towers, Oceans, Simplicity, Chas. Davis, Mrs. W. H. Lees, Henry Weeks, and Mr. Carrington Japanese; Chrysanthémiste Bruant, Duchess of Fife, Islene, Lady Isobel, Mrs. C. E. Egan, Ma Perfection, General Symons, Madame Ferlat, R. C. Kingston, Globe d'Or, Mrs. Howe, Mons. Desblanc, Topaze Orientale, Ralph Hatton, C. H. Curtis, Mrs. Col. Goodyear, Major Bonaffon, Miss V. Foster, Bonnie Dundee, Lord Alcester, Hanwell Glory, Queen of England, Empress of India, and W. Tunnington, incurved. That excellent grower Mr. West, gardener to E. Behrens, Esq., Bettlesfield Park, Whitechurch, Salop, took the second place with a handsome set.

For thirty six Japanese Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., The Lawn, Aigburth, repeated his Liverpool success, staging grand flowers of Graphic, Master H. Tucker, Charles Davis, Phœbus, Mrs. G. W. Palmer, Madame G. Debrie, Mrs. J. Lewis, Mons. Remy, Madame G. Henri and Mary Molyneux; Mr. H. Lees came second, and Mr. F. Vallis, Fruit Farm, Bromham, third.

Mr. West had a smart twenty-four incurved, particularly fine being Isobel, Duchess of Fife, Ma Perfection, C. H. Curtis, Topaze Orientale, and King of Yellows. Mr. Heaton was a good second and Mr. Lees third. Mr. Vaughan, gardener to T. Brocklebank, Esq., The Hollies, Woolton, carried the prize for twelve incurved with a splendid stand. Mr. A. H. Hall, gardener to T. C. Waterhouse, Esq., Collier House, Prestbury, staged in superb form, and won for eighteen and twelve Japanese, whilst Mr. McKellar, gardener to G. Watts, Esq., Abney Hall, Cheadle, accounted for the thirty-six miscellaneous, with a fine heavy collection.

Groups were poor, but the staked plants were simply magnificent. Mr. Bradburn, gardener to G. H. Gaddum, Esq., Didsbury, one of the finest growers in the kingdom, won the classes for nine and six in the most decisive manner, also for red and white Primulas, Roman Hyacinths and table plants, Mr. Mulloy, gardener to T. Harker, Esq., Withington, being a good follower in each plant class. A beautiful six Pompon pyramids won Mr. Smith, gardener to James Brown, Esq., Langfield, Heaton Mersey,

a well deserved honour. Mr. R. Doe, gardener to the Earl of Derby, K.G., Knowsley Hall, Liverpool, merited the silver medal awarded for forty grand dishes of hardy fruit. A charming collection of Orchid flowers was staged by Mr. Johnson, gardener to T. Statter, Esq., Stand Hall, Whitefield. Mr. Elkin, gardener to Mrs. Agnew, Eccles, won with a handsome basket, Mr. Kirk having delightful bouquets, and Mr. Smith out flowers.

Manchester merchants are essentially lovers of choice Orchids. Messrs. Charlesworth & Co., Heaton, Bradford; J. Cypher, Cheltenham; Hugh Low & Co.; Jno Cowan, Gateacre, had superb groups of these choice flowers. Messrs. Dickson & Robinson and Dickson, Brown & Tait (splendid local supporters) had exhibits of plants in season. Messrs. W. Clibran & Sons sent seedling Chrysanthemums, the singles being grand, with the beautiful *Salvia splendens grandiflora* and other choice plants. A gold medal was granted to Messrs. Sutton & Sons for Cyclamens, Begonia Gloire de Lorraine, Potatoes, and a host of other fine things too numerous to mention. Mr. Weathers and Mr. Paul, his assistant, gave invaluable assistance to all exhibitors. The music by the fine Northern Military Band, and a capital performance of "The School for Scandal" by ladies and gentlemen of the district, formed more than pleasant features. With judicious advertising on a future occasion the show might be made one of the most attractive in the North, for no more roomy or suitable place could be found.

EDINBURGH.—NOVEMBER 16TH, 17TH AND 18TH.

THE annual autumn exhibition was held as usual in the Waverley Market Hall, and was in every way a success. Many fine shows have been held in this city under the auspices of the Scottish Horticultural Association, but never one of such magnitude and general excellence as the present. The entries exceeded those of all previous shows in point of numbers. No less than 1500 cut blooms were staged in vases alone in addition to the 2000 in the ordinary stands. The competition was exceedingly keen, many of the exhibits being separated by the extremely narrow margin of half a point. The management was, as usual, excellent.

The principal cut bloom class was that for twenty varieties, three blooms of each, Chrysanthemum foliage only to be used. The first prize was a piece of plate value £20 and £15 in cash. For this seven competed, making a magnificent display. After much deliberation the Judges awarded the first prize to Mr. T. Lunt, gardener to Captain Stirling, Keir, Dunblane. The blooms were of full size, rich in colour and beautifully staged. The varieties were Mrs. W. Mease, Mrs. G. W. Palmer, Simplicity, Pride of Exmouth, Robert Powell, Mrs. C. H. Payne, Mdlle. M. A. de Galbert, James Bidencope, Madame Carnot, M. Chénou de Leché, Madame A. Rousseau, Pride of Madford, extremely bright; H. Weeks, Oceana, massive petals; Louise, Lady Ridgway, Mrs. Weeks, Mary Molyneux, Australie and Phœbus. Mr. J. Beisart, gardener to Mrs. Armitage, Castle Huntly, Longforgan, was an extremely close second. Mr. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, Reading, was a capital third. Mr. A. Chandler, Cotton House, Rugby, fourth.

In a class devoted to growers in Scotland only, for twelve varieties, three blooms of each, the Scottish cup and £10 were offered as first prize. Here no less than eight competed, making a bold display. Mr. D. Nicoll, Forgandenny, secured the premier award with a magnificent display of blooms possessing much quality. The varieties were Edith Tabor, Mutual Friend, Phœbus, Madeline Davis, W. Curshaw, Mrs. Lewis, Mrs. Weeks, Oceana, Mrs. Coombe, Ella Curtis, Madame Gustave Henry, and Australie. Mr. Kirk, Alloa Gardens, was a good second, and Mr. J. Beisart, third. For twenty-four blooms arranged in four vases there was brisk competition and a very fine display was the result. Mr. R. W. E. Murray, Blackford House, Edinburgh, secured the leading award. Mr. D. Kidd was second, and Mr. A. Molness, Falkland Palace, third.

For one vase of twelve Japanese thirteen competed. Mr. W. Norman, Alloa House, Alloa, was first; Mr. J. Boucher second; both staging full-sized fresh blooms. For one vase of six blooms of any one Japanese variety, Mr. W. M. Moir, Rosehaugh, Avon, was first amongst ten strong competitors, staging Mrs. Lewis in faultless style, Madame G. Henry winning second place for Mr. J. Hood, Dryburgh House, St. Boswells.

Prizes were offered for six blooms of specified varieties, which produced keen competition and a rich display. Mr. L. McLean, Greenfield, Alloa, won with Charles Davis with richly coloured blooms; Mr. J. Henderson second, Mr. Kirk third. Mr. J. Bird, Raehills, Lockerbie, won for Mrs. J. Ritson with charming blooms, Mr. J. Foster, Wedwood Park, Selkirk, second. Oceana was well represented by five competitors, Mr. J. McLean, Greenfield, Alloa, winning the premier award with faultless examples, Mr. J. Henderson, Ellersa, Windermere, second; Mr. A. Kirk third. Mr. W. Black won for Edith Tabor amongst six competitors, Mr. McLean second. The last-named won with Mrs. Weeks, Mr. W. Purlane, Rosslee Row, was first for Mutual Friend in capital condition. Single flowered varieties arranged in vases made a fine display, nine competed for one vase of unlimited size. Mary Anderson in a huge mass won for Mr. A. Angus, Dalzell, Motherwell, the premier award. Mr. J. McGregor, Clifton Park, Kelso, was second with Miss A. Holden. For three vases of decorative varieties there was brisk competition. Mr. J. McGregor was first, Mr. A. C. Cameron second, and Mr. E. Chaplin, St. Leonard's, Dalkeith Road, third.

Cut blooms staged in the usual way on stands were numerous and meritorious. In the Japanese section the principal class was that for thirty-six distinct. Here again Mr. Lunt was successful among ten com-

petitors with a set of heavy blooms of the following varieties: H. Rivers Langton, Edith Dashwood, Lionel Humphrey, Mrs. G. Carpenter, Royal Standard, Mary Molyneux, Le Grand Dragon, Mrs. Barks, Pride of Exmouth, J. Bidencope, Oceana, C. F. Payne, Lady Hanham, Edith Tabor, Mrs. M. Grant, Australie, R. H. Pearson, and M. Louis Remy. Mr. D. Nicoll was a good second, and Mr. McHattie a close third. For twelve Japanese, distinct, there was again brisk competition. Mr. J. H. Cumming, Glantly Castle, Ballinluig, was an easy first, Mr. Lunt was second, and Mr. Haggart, Ludlow, third. Twelve Japanese, in four varieties, created keen competition, no less than ten staging. Mr. Lunt followed up his previous success by easily winning the premier award with grand examples of N.C.S. Jubilee, Pride of Madford, Mrs. Weeks, and M. Chénou de Leché. Mr. J. H. Cumming followed. Mr. Lunt was once more successful, winning the premier award for six distinct. Mr. J. Shearer was successful in the class for six any one variety, staging lovely blooms of Oceana. The Society's silver medal was won by Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rookesbury Park, Fareham, Hants, for the best new Chrysanthemum not yet in commerce with blooms of Florence Molyneux, recently illustrated in these pages. Amateurs staged really very fine blooms in the various classes set apart for this section.

Incurved blooms were a distinct advance upon recent years. A first prize of £5 was offered for twenty-four distinct. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, secured the leading position with medium-sized, neatly finished examples of Hanwell Glory, Queen of England, Madame Ferlat, Lady Isobel, Austin Cannell, Duchess of Fife, Countess of Warwick, and Mrs. Coleman. Mr. A. Chandler was a good second. Eight competed. For six distinct, Mr. J. Clark, Bannerfield, Selkirk, was first with C. Curtis, Queen of England, and Lady Isobel in really good condition. For six of any one variety Mr. J. Cumming went ahead with neat examples of Baron Hirsch; Mr. James Henderson with the same variety winning the second place. The premier Japanese bloom in the show was Pride of Madford, staged by Mr. Lunt, a magnificent example of this variety.

Plants were a distinct advance on recent years. The sum of £10 is offered as first prize for six specimens, distinct. Mr. D. Cavanagh, St. Edmonds, Murrayfield, was an easy first. Mr. W. Pulman, Hollywood, Collinton Road, was second. Mr. Cavanagh also secured the premier award for four and two Japanese, distinct, with similar examples to his former exhibit. Mr. R. Haswell won the premier award for single specimen white-flowered variety—a grand example of Mdlle. Marie Hosta. Single-flowered varieties were capitally represented, Mr. J. Pulman winning with a fine example of Mary Anderson.

For a group of Chrysanthemums, foliage and other flowering plants, arranged for effect, there were four exhibitors for the £10 offered as first prize. Mr. James Wood, Dunmore Park, Hamilton, secured the coveted award with a bright exhibit; Mr. Jardine, Gartshore, Ravelston, was second; and Mr. Wood, Oswald House, Edinburgh, third.

Fruit and vegetables were both numerous and well contributed. Space, however, forbids a detailed report. The best Grapes in four varieties, single bunches, were staged by Messrs. D. & W. Buchanan, Kippen, a similar award falling to Mr. A. C. Cameron, Binrook, Dundee, for a collection of ten varieties of vegetables—a really fine exhibit. Non-competitive exhibits were numerous and good, adding much to the interest of the show. Mr. Norman Davis, Framfield Nurseries, Sussex, had a display of Chrysanthemums. Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, was represented by one of his artistically arranged groups of Chrysanthemums, foliage plants, and Begonia Gloire de Lorraine. Both of these exhibits were awarded the Society's gold medal. Mr. Wells, Earlswood Nurseries, Redhill, Surrey, had an interesting collection of Chrysanthemums. Messrs. Dobbie & Co., Rothesay, were represented by a stand of Chrysanthemums, while Messrs. R. B. Laird & Sons, Ltd., staged an interesting group of Conifers.

BRADFORD.—NOVEMBER 17TH AND 18TH.

THE best show ever held in Bradford was opened by the President (the Mayor), in the presence of a large and distinguished company, including Sir Fortescue and Lady Flannery. The number of entries greatly exceeded those of any previous year, with the result that the floor space of the large hall was severely taxed.

For the open challenge cup there were fourteen entries, and the winners eventually proved to be Messrs. G. Fairbairn & Son, Croft Nursery Botoherby, near Carlisle, with a magnificent stand of flowers. The best blooms were Phœbus, Mrs. Lewis, Chas. Davis, Australie, President Nonin, N.C.S. Jubilee, Eva Knowles, Vivand Morel, Oceana, Mrs. W. G. Palmer, Mrs. H. Weeks, Mme. G. Henry, Chénou de Leché, Julia Scaramanga, and Lady Hanham. The second prize fell to Mr. J. Goodacre for a good stand, which, however, had some malformed flowers of Madame Carnot and Mrs. Mease, and many good growers expressed surprise that the Judges gave their award to this stand. Mr. Midgley, Bankfield, was third.

The local cup classes were equally as well competed for. Class 19, Lord Masham's challenge cup, was won by Mr. John Brooke, Heaton; class 20, the city members' cup, fell into the hands of Messrs. Henry Clark & Son, Rodley. The local classes were exceedingly well competed for, Messrs. W. Moorby, Butters, John Thornton, John Moorby, T. Bird, and J. Whittingham taking premier honours. The specimens on the whole were a creditable collection of plants, which looked very effective on the orchestra seats.

Five groups of Chrysanthemums were staged for competition for the

handsome cup given by the Mayor. Mr. J. Pettinger, Strawberry Dale Nursery, had the best arranged group and carried off the cup, while Mr. W. Bell and Dr. Smith had to be content with the second and third prizes. The entries for Primulas, Cyclamens, and Roman Hyacinths were numerous, and a keen competition saw Mr. Butters come out with flying colours; his Roman Hyacinths were exceedingly good. The two classes reserved for fruit, black and white Grapes always brings forth a rivalry amongst the local growers, Mr. Midgley and Mr. F. Howland, the former winning easily with some handsome bunches of Mrs. Pince and Muscat of Alexandria.

A new feature of the show is Class 8, twenty-four Japanese in eight varieties, shown in vases, a special prize given by A. Musgrave, Esq., and one which created a spirited competition, not less than eight stands being staged, Messrs. Fairbairn again winning in this class, with Mr. Midgley a good second. Every praise is due to Mr. W. Horsman (the Chairman of Committee) and the hardworking Committee for the most successful show ever held.

HUDDERSFIELD.

THE eighth exhibition of the Huddersfield Society was opened in the Town Hall on Friday, November 10th, by the Deputy Mayor (Alderman W. H. Jessop, J.P.). It afforded ample evidence of the progress that is being made in the cultivation of the flower in this district. The principal addition to the exhibition is a class for a group of miscellaneous plants, including Chrysanthemums, covering 64 square feet, arranged for effect. As there were no less than five exhibitors in this class, the addition of bloom which resulted greatly improved the appearance of the room. The Town Hall presented (says the "Huddersfield Chronicle") a perfect picture of floral loveliness, which sufficiently exemplified the beauty and variety of the popular flower.

Those best qualified to judge pronounced this to be the best show ever held in Huddersfield. Not only were the classes better filled, but the quality generally was higher than usual, and, as far as cut blooms were concerned, compared more than favourably with other shows held in the county. In the open class the Chrysanthemums, both incurved and Japanese, were quite up to the usual standard. In the groups of Chrysanthemums, although there was no difficulty in allocating the first prize, the second and third competitors ran Mr. T. H. Ramsden closer than in previous years. The first prize for the miscellaneous group also fell to Mr. Ramsden, whose gardener (Mr. B. Micklethwaite) had arranged a very attractive group. The general arrangement of the groups in the amateurs' section was creditable. There was a small show of fruit, the Grapes being fairly good, and the table plants were a very nice feature of the show, whilst the bouquets were also very attractive. There was not a large attendance at the opening ceremony.

In the open class for twenty-four blooms, Japanese, distinct, first Mr. T. Gee, Liverpool; second Mr. G. B. Cockburn, Birkenhead. Twenty-four blooms incurved, in not less than eighteen varieties and not more than two blooms one variety, first Mr. T. Gee; second Mr. G. B. Cockburn. For a group of Chrysanthemums, 55 feet square, first Mr. T. H. Ramsden, Colcar; second Mr. H. F. Clayton, Greenhead Road. Group of miscellaneous plants, including Chrysanthemums, 64 feet square, first Mr. T. H. Ramsden; second Mr. T. J. Hurst; third Mr. D. Haigh, Longwood. Single Japanese: first Mrs. Brigg, Greenhead Hall; second Miss Hurst, Wood Cottage, Meltham. Single reflexed: first Mrs. Brigg. Single Pompon: first Miss Hurst; second Mr. H. F. Clayton. Single flowering: first Miss Hurst; second Mrs. Brigg.

In the cut bloom section for eighteen Japanese, in not less than twelve varieties and not more than two blooms of one variety, first Mr. T. J. Hurst; second Mr. S. Ormrod, Rastrick; third Mr. C. J. Ormrod, Rastrick. Eighteen blooms incurved: first Captain Brook, Meltham; second Mr. T. J. Hurst. Twelve blooms Japanese: first Mr. S. Ormrod; second Mr. T. J. Hurst; third Mr. C. J. Ormrod. Twelve incurved: first Mr. T. J. Hurst; second Captain Brook. Six incurved: first the Countess of Dartmouth, Woodsome. Six Japanese: first Mr. T. J. Hurst; second Mrs. Brigg. Six large flowering Anemones: first Mr. T. J. Hurst; second Captain Brook. Six sprays Pompons: first Miss Hurst. Six white Japanese: first Mr. S. Ormrod; second Miss Hurst. Six blooms of any one variety: first Mr. T. J. Hurst; second Miss Hurst. Six yellow blooms: first Mrs. Brigg.

LEEDS.

BRIGHT and cheery was the general aspect of the Chrysanthemum show that opened on November 14th in the Leeds Town Hall. The Chrysanthemum, no matter what colour or what form it takes, is a delightful flower. There is beauty, too, in the incurved, which seems to have fallen upon evil days. It is easy to see why the typical Japanese is so popular. Its beauty is of the free and flowing type, and yet not too irregular in its freeness. A particularly attractive feature of the present show was the groups of miscellaneous plants formed in squares and arranged for effect. Here the artistic gardener has full play, and the judge of colour and grace is bound to excel. The exhibit made by Mr. E. Beckett Faber's gardener usually takes the first prize, but this year strong rivalry came from Sir James Kitson's gardener. The colour scheme of the latter's exhibit was superior—the tints were brighter—and if this had been the only point weighing with the Judges it would have been labelled with the first card. But the arrangement of the plants was, says a local contemporary, lumpy, and the lighter and more artistic group from Mr. Faber's conservatories ended by claiming premier honours.

For a miscellaneous group of plants, arranged for effect, in a space not exceeding 100 square feet, to form a square.—First, E. B. Faber,

Esq., Belvedere, Harrogate (gardener, Mr. Townsend); second, Sir James Kitson, Gledhow Hall, Leeds (gardener, Mr. Grix). Group of Chrysanthemums, 7 feet by 10 feet, with not more than six foliage plants, arranged for effect, Ferns allowed.—First, Mrs. Tetley, Fox Hill, Weetwood (gardener, Mr. Eastwood); second, Mr. Pettinger, Harrogate.

For twenty-four Chrysanthemums, incurved, not more than two of any one variety, and not less than eighteen distinct varieties.—First, the Earl of Harrington, Elvaston Castle, Derby (gardener, Mr. Goodacre); second, Mr. J. Thornton, Drighlington; third Mr. P. Clark, Rodley. Twenty-four Chrysanthemums, Japanese, not more than two of any one variety, and not less than eighteen distinct varieties.—First, Mr. P. Clark; second, Earl of Harrington; third, Mr. Pettinger, Harrogate. Basket of Chrys-



FIG. 82.—DENDROBIUM TREACHERIANUM. (See page 444.)

anthemums, twelve blooms, distinct varieties, arranged for effect, any kind of foliage.—First, Mrs. Taylor, Buckingham House, Headingley (gardener, Mr. J. Leach); second, Sir J. Kitson.

In the section open to gentlemen's gardeners and amateurs, limited to a radius of six miles from the Town Hall, there were some fine exhibits. Groups of miscellaneous plants, arranged for effect in space not exceeding 60 square feet, semicircle.—First, Matthew Kitchen, Esq., Eller Close, Roundhay (gardener, Mr. A. Gamble); second, Mr. J. W. Oxley; third, Mrs. Tetley. Twelve Chrysanthemums, incurved, distinct varieties.—First, Sir J. Kitson; second, Mrs. Bowring; third, Mrs. Tetley. Twelve Chrysanthemums, Japanese, distinct varieties.—First, Mrs. Tetley; second, Mrs. Bowring; third, Sir J. Kitson. Twelve Chrysanthemums, six incurved and six Japanese, distinct.—First, Mr. A. T. Walker; second, Mr. J. W. White; third, Mr. M. Kitchen. Twelve Chrysanthemums, three incurved, three Japanese, three reflexed, and three large flowering Anemones, distinct.—First, Mr. A. T. Walker; second, Mr. J. W. H. White; third, Mr. M. Kitchen. Six Chrysanthemums, incurved, distinct.—First, Sir J. Kitson; second, Mrs. Tetley; third, Mrs. Bowring. Six Chrysanthemums, Japanese, distinct.—First, Mrs. Tetley; second, Mrs. Taylor; third, Mr. A. P. Baines. Six Chrysanthemums, Japanese, one

variety.—First, Mrs. Taylor; third, Mrs. Bowring. Six Chrysanthemums, incurved, one variety.—First, Mrs. Taylor; second, Sir J. Kitson; third, Mrs. Tetley. Six Chrysanthemums, reflexed distinct.—First, Mr. A. T. Walker; second, Sir J. Kitson; third, Mrs. Bowring. Six Chrysanthemums, Anemone, distinct, any variety.—First, Mrs. Bowring; second, Mrs. Tetley; third, Sir J. Kitson. Six bunches of Chrysanthemums, Pompon, distinct, three blooms in a bunch.—First, Mrs. Tetley; second, Mr. A. T. Walker. Six bunches of Chrysanthemums, singles, distinct, three blooms in a bunch.—First, Mrs. Tetley.

HULL SHOW IN 1900.—Mr. E. Harland, one of the Hon. Secretaries of Hull Chrysanthemum Society, writes:—"The date of our next show has been fixed for 14th and 15th November, 1900."

THE YOUNG GARDENERS' DOMAIN.

CHRYSANTHEMUMS.

(Continued from page 414.)

FROM four to five weeks after potting the plants will require removing to their summer situation, so prior to this all preparations should be made. The best plan to adopt is to have some stout stakes 10 feet to 12 feet in height when driven in the ground, having them about 12 feet apart with three rows of galvanised wire fastened to them at an equal distance apart; place ashes for the pots to stand on. A good position for the plants is running from north to south and along the sides of walks, as they are very convenient to do such necessary work as watering and tying. When all preparation has been made and the time has arrived the plants can be taken out, standing the pots almost touching each other and tie the growths to canes attached to the wires. They will thus get the full benefit of the sun and also plenty of air. Three growths will be sufficient for each plant; tie each growth to a separate cane, which will favour the ripening of the wood as growth proceeds.

Watering must be carefully attended to, never allowing any of the plants to become thoroughly dry or wet. During hot weather it will be necessary to look over them twice daily, and when exceptionally hot, three times. Chrysanthemums require constant feeding, but this is often commenced too early; always let the pots become filled with roots before giving special food. Attend to the syringing of the plants, as this will keep pests in check.

About the first or second week in August some of the buds will be ready for taking, that is, the Japanese, while the incurved will be better left later; of course, the grower must decide how many to leave. The plants will also require a top-dressing, and the following compost will be found suitable: four parts loam, one leaf mould, a little fine lime rubble, and a small amount of dissolved bones. At the beginning of September the house which is intended for the plants should be got in readiness to receive them. Have the glass and woodwork thoroughly washed, so that all pests may be removed, but allow the house to become dry before staging commences. No hard and fast rule can be made for the time of taking in the plants, as this depends on the season, but all of them should be in at the beginning of October. When the plants are housed, give them full air for a few days unless the weather be very rough, and a temperature of 45° to 50° at night. Always keep a little fire heat on day and night if the weather is damp and dull, otherwise the forets and foliage will damp. When the sun shines brightly after the buds begin to burst they will require a little shading. Watering must be carefully done, only applying it to plants that are in need of it, and always be careful not to let any water drop on the paths; a little weak lime water once a week will prove beneficial.—P. R.

MANURE FIBRE.—There can be no doubt but that ordinary animal manures when mixed with straw in a state of semi-decomposition, and especially when prepared and sweetened for application to the soil by frequent turnings in the same way that manure is prepared for hotbed and Mushroom bed formation, constitute plant food of the very best description. Not only does manure so prepared furnish food material to crops almost instantly, but also because it contains so much of fibrous matter in it, that whilst not immediately soluble yet gradually becomes so. Fibre in soils plays a valuable part. We see that when we obtain turfy loam for potting, stack it for a time to promote sweetening and partial decomposition, then employ it for potting whilst still full of root or grass fibre. This fibre serves two important purposes. It helps to keep the soil open, porous and aerated, so that it is sweet and roots can run through it freely; but also as it gradually decomposes it becomes, as all vegetable matter becomes in decomposition, food for living plants. Did we depend for potting soil on that which is quite devoid of fibre, very soon it would in the pots resolve itself into a bare lumpy impenetrable mass, and plants in it would gradually die. It is so with all soils, as every gardener without the aid of one atom of scientific teaching learns by common observation, and that soils which are supplied with vegetable matter of almost any description capable of decomposing, are the ones that produce the best crops. Artificial or chemical manures, however good they may be, furnish no fibre. Many gardeners have to supply it alone by the aid of leaves or garden refuse, having no animal manure, but even in such cases better crops result than can be obtained from artificials only. Hence the value of fibre as manure.—D.



HARDY FRUIT GARDEN.

Cordon Fruit Trees.—One of the most interesting methods of growing fruit is cultivating trees on the cordon system. It is the best system for low walls, as cordons are much more productive than other forms possibly could be on such restricted space. A greater variety of fruit may be grown with cordons and the trees are simply and easily managed. They may be cultivated on espalier fences as well as on walls and succeed as single, double, or multiplex cordons in the upright or diagonal form. Apples, Pears, Plums, Cherries, Gooseberries and Currants may all be grown on the cordon system, and carefully managed will prove profitable.

Preparing the Soil.—It is undesirable to plant cordons in poor, dry, shallow soil. On the other hand, the ground must not be made rich with manure, as this will be conducive to a strong, unmanageable growth. The soil must be worked well to the depth of 2 feet, and should it be rather poor it will be beneficial to enrich it with good loam rather than manure, but a little decomposed manure may be added, with wood ashes or burnt refuse. The width of the ground prepared ought not to be less than 3 feet. Cordons do not, as a rule, root deeply, but there is considerable advantage in having the ground worked well so that the roots may descend to a reasonable distance.

Planting and Training Cordons.—It is not desirable to plant cordon fruit trees either too closely or too wide apart. In the former case the branches will not receive sufficient air and light, in the latter the roots may have more room than necessary, which will cause an over-vigorous growth, and training space is wasted. In planting cordons to be trained on high walls, say 6 feet to 10 feet high, plant 18 inches to 2 feet apart. On walls and fences 4 feet to 6 feet high the distance may be 2 feet to 2 feet 6 inches. On an espalier wire fence 18 inches or 20 inches apart is a suitable distance. The above refers to single cordons of Apples, Pears, Plums and Cherries. The best method of training is the diagonal at an angle of 40° to 45° for high walls, and 45° to 50° for low walls and espalier fences. Trees with double or more branches require planting wider so as to admit of the branches being trained at the distance named. Gooseberries and Red and White Currants do well as cordons on north walls and also on espalier fences. They are best trained upright and may be planted as single cordons.

The best trees for planting are those which are old enough to have formed some spurs or fruit buds at the base, and are well furnished with fibrous roots. Keep the roots moist previous to planting, and spread all the fibres carefully out in the soil to their full extent, pruning away any damaged parts with a sharp knife. Dispose them in layers, covering each layer by spreading fine soil over them from the stem outwards. When the planting is finished tie the branches loosely to the wires for a time to admit of the trees and soil settling together. Afford also a light mulching. The leader may be trained in without any shortening, but reduce the side shoots to one or two buds. Very short side growths with a fruit bud at the end should remain untouched.

Wiring Walls and Fences.—For cordon training the walls are best wired, this giving more room for the development of spurs. The wires should be fixed to stout uprights at each end with straining bolts and nuts to make them tight. The wires may run 3 inches from the wall and be placed 12 inches apart. For fences the wires can be the same distance asunder, fixing the uprights firmly. Fences ought to be well painted before trees are trained upon them. If not convenient to fix wires Gooseberries and Currants may be nailed to walls.

Strawberries.—The moist autumn weather has caused weeds to grow thickly in beds which were cleared some time since. The soil ought now to be hoed over on a dry day, and the ground between the plants covered with a mulching of manure. Beds which have not had the autumn clearing of runners and weeds should be dealt with at once, mulching afterwards between the rows with rich manure for old plants, little if any being required for young and vigorous plants in good soil, though a dressing of wood ashes or burnt refuse will prove beneficial in supplying to light soils mineral matter and potash.

Mulching Bush Fruit.—Fork up the strong, deep rooting weeds in the Gooseberry, Currant, and Raspberry quarters. The smaller and seedling weeds can be hoed down. Then mulch the ground thickly with farmyard manure. Digging between the trees is not advisable, as the ground cannot be disturbed without injuring fibrous roots, and it is not necessary to bury the manure. Laid on the surface of the soil, the rains will wash the virtues out of the manure down to the roots, and the remains may be raked off in spring, giving the summer mulching in May or June to conserve the moisture in the soil.

Artificial Manure for Fruit Trees and Bushes.—The manures which ought to be applied at the present time of the year are those which require some time to dissolve in the soil. Fruit trees and bushes needing support will be benefited by the application of basic slag and kainit, at the rate of a quarter of a pound of basic slag to one ounce of kainit for each square yard. This mixture may be applied in a mulching of vegetable matter,

and should extend as far as the branches. If liquid manure is also applied now it will help in the work of improvement.

FRUIT FORCING.

Peaches and Nectarines.—Earliest House.—To have ripe fruit in April or early in May a start should be made at the beginning of next month, the very early varieties, Alexander and Waterloo, giving fruit about three weeks earlier than Early Louise, and a month or more before Stirling Castle and Royal George Peaches, while Cardinal ripens considerably in advance of Early Rivers, these preceding Lord Napier and Stanwick Elrage Nectarines. The trees having been at rest some time, and previously forced, will start promptly, but those not before started early will not respond so quickly, therefore the house should be kept close, but admitting air freely above 50°, employing fire heat only to prevent the temperature falling below 35°. Aim at slow, gradual development, in the growths to secure sturdy, well expanded flowers, with strong stamens and anthers well laden with pollen, and the pistils stout and perfect. The outside border must be protected so as to exclude frost, for the roots cannot absorb nourishment from the soil when it is frozen. A thorough soaking of water should be given to the inside border, and if the trees are weakly a soaking of liquid manure (not too strong) will tend to a more vigorous break. Sprinkle the trees in the morning and afternoon of bright days, but do not keep them dripping with moisture, especially at nights, for that has a weakening tendency, and encourages wood rather than blossom development.

Second Early Forced House.—The trees to be started at the new year for affording ripe fruit at the end of May or early in June, and being of the second early and midseason varieties, must be kept as cool as possible. The lights having been removed, they may remain off until the weather becomes very severe or snow falls, when they should be replaced, after thorough cleaning, repairing, and, if need be, painting. The trees will require little pruning if they have received proper attention in dis-budding, reserving only the growths needful for extension and next year's crop, and cutting out that which has borne fruit this year and is not required. If the trees have been affected with brown scale nothing assists in its destruction better than exposing the trees to frost. Where the lights are fixed the trees may be syringed with water at a temperature between 140° and 160°, this will bring off most of the scale, then the trees can be washed with a solution of 1 oz. each of caustic soda (98 per cent. purity) and commercial potash to 1½ gallon of water, using a brush and being careful not to dislocate the buds. The solution must not be used excessively. Secure the trees to the trellis, leaving plenty of space in the ties for the swelling of the branches. Remove the remains of the mulch and any inert surface soil, supply fresh turfy loam about 2 inches deep, chopped moderately small, adding a 6-inch potful of steamed bonemeal and twice as much wood ashes to every 3 bushels of soil, incorporating well. Ventilate to the fullest extent except when the weather is severe, and see that the soil is kept moderately moist.

Succession Houses.—The trees in the house to be started with the advent of February to ripen their fruit late in June or early in July should be subjected to the same treatment as advised for trees in the second early house. It is bad practice to leave houses and trees unattended to after the leaves fall until the time of closing the structures, and favours insects pests immensely. The trees can never be handled so safely, either for needful cleaning and pruning or eradication of insects, as when the buds are least active, which is as soon as the leaves have fallen, and the insects are reached before they have time and are obliged by cold to make their retreat to safe quarters. Such pests as brown aphids live on the growths constantly. Any shoots infested should be cleaned with a brush dipped in tobacco water. It is a common practice to use houses of this kind for plants, especially Chrysanthemums, but it is fatal to that rest essential to the success of Peach trees, and a primary cause of the buds subsequently dropping. The better plan is to let the water run out of the hot-water pipes and remove the roof-lights.

The house to be started early in March for the trees to ripen their fruit early in August should be thoroughly cleaned, as the trees are now leafless, and require pruning and dressing as advised for the second early forced trees in every particular. It is an old and excellent practice to empty the hot-water pipes and remove the roof-lights, leaving them off until the blossoms show colour, or admit air to the fullest extent in all weathers, for no amount of frost will injure the wood, provided it is thoroughly ripe.

Late House.—This can hardly be called a forcing structure, yet there should be means of affording a genial heat when the trees are in blossom, and for accelerating the ripening of the fruit as may be desired, also for maturing the wood in cold districts. The trees under ordinary circumstances will come into flower during April, and ripen their fruit at the end of August and during September. Cut out all wood that has borne fruit, if not otherwise required. Do not allow the soil to become dry, but give a thorough soaking of water if necessary. If the wood does not ripen well employ fire heat by day with moderate ventilation, and turn it off in the afternoon, so as to have the pipes cool before the night, and then open all the ventilators unless keen frosts prevail. The house must otherwise be kept cool by free ventilation, and the fallen leaves cleared away. Late Peaches are valuable, and when well grown good in quality. If any of the trees grow too luxuriantly, root-pruning and lifting must be attended to without delay. With proper treatment the crop for next year will not be prejudiced. In lifting the trees do not manipulate the roots too much, and do not lift them before the wood becomes firm. Rectify the drainage if defective.



PACKING HONEY

NEXT in importance to having a good harvest of honey is knowing how to place it on the market in proper condition, which means that the produce must be so packed that it will travel by road or rail without being damaged in transit. Bee-keepers are often at a disadvantage in this respect, as to obtain pure honey of the best quality the bees must be kept in the country. After the harvest is over bee-keepers are on the alert to find customers for their produce, and as they are often situated many miles from a town or a railway station it is manifest to all, unless the honey is carefully packed it will not reach its destination in good condition.

Country roads are now much improved, but are not yet perfection, and the jolting over rough stones in a carrier's waggon or a cart without springs often does more damage than when the package is left to the tender mercy of the railway porters and a long railway journey. That this is not overdrawn will be acknowledged when we say that in our immediate neighbourhood the above are the only means the smaller bee-keepers have of disposing of their produce, as the nearest town is about ten miles away and the railway station nearly as far.

Personally we have no reason to complain, as by careful attention to the details of packing we invariably find that whether in the comb, or run honey in glass jars, it reaches its destination in as good condition as from bee-keepers more favourably situated, although it may have travelled some hundreds of miles by rail after a long journey by road, which, as before stated, is not always of the best.

PACKING RUN HONEY.

For packing run honey in bulk, we find that tradesmen who do their own bottling prefer having it in large tins, with a treacle tap at the bottom. The bottling may then be done at a rapid rate. Tins of this description can be placed in a strong box, to prevent the tap being damaged when sent by rail. If sent by road to be delivered the box is not necessary. The advantage of disposing of honey in bulk wholesale is that it does away with all risk, such as is attached to glass jars.

For smaller quantities in bulk the patent self-opening tins are excellent. These are made in various sizes, to hold 14 lbs., 28 lbs., and 56 lbs. The best system we have found for packing tins of this description is to obtain some strong boxes from a grocer. Two or more tins are placed in each box, space being left between each tin and the sides of the box, which must be filled with hay or some other packing material, taking care that it is pressed in very firmly.

We also use brown earthenware jars. These are made to hold 7 lbs. and 14 lbs.; they have a wide mouth and a loose movable lid. These may be packed in the same manner as recommended for tins. It is, however, necessary to place a double thickness of soft paper round the lid; this will hold it firm, and prevent it being broken; and if a stout piece of brown paper is tied tightly over the mouth of the jar, the honey will not be damaged should the package be accidentally turned over.

In packing run honey in 1 lb. glass jars to travel a long distance, we prefer a box divided with laths, so that squares are formed, into which a jar is dropped. Boxes should not be made too large; those holding two dozen are a convenient size. Another plan that we adopt for glass jars is to select a box the same depth, or an inch deeper, than the jar. We then place a roll of paper round each jar, and the intervening space round the sides of the box is packed firmly with the same material, and if there is any space left between the top of the bottles and the lid of the box some more paper should be used, so that they cannot move if turned over on one side.

PACKING COMB HONEY.

More care is required in packing honey in the comb than run honey. Firm packing, however, is all that is required, if the face of the comb has been previously made secure from damage, either by glazing or by fastening each half a dozen sections in paper with a piece of stout cardboard at each end. When tied up in packages of this description there is less danger of them becoming damaged in transit than when placed separately in rows in a box.

These should be packed in boxes having a layer of soft hay at the bottom. They must be well padded round the sides with the same material, firmness in packing being most important. If packing is done on the above lines they may be sent by goods train, and should be labelled "Honey, with care."—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

English Fruit & Rose Co., Hereford.—*Roses and Fruit Trees.*
Hogg & Robertson, Dublin.—*Forest Trees*
Hogg & Wood, Coldstream.—*Nursery Stock.*



- All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Figs on both Back and Front of House (H. W.).—The house with a south aspect, and having two rows of 4-inch pipes the whole length of the structure, would be suitable for growing early Figs, but the trees must be confined to either the wall or the trellis along the front, for they require unobstructed light. In so narrow a house (7 feet) the roots must be confined to a narrow and shallow border, otherwise the trees will produce very little beyond wood and leaves. The best all-round Fig is Brown Turkey, as it gives good results in both the first and second crops. Pingo de Mel is also an excellent variety. For very early use the small Early Violet and St. John's are useful, and of good quality. For richness we know of no superior to the small Bourjasotte Grise. To secure two crops the trees must be started not later than the early part of February.

Dessert Apples and Pears for Espaliers (Henri).—We hardly know what you mean by twelve best and twenty-four best varieties, as you may require thirty-six, therefore name the latter: Apples—twelve small fruited: Juneating, Oslin, Kerry Pippin, Court of Wick, Pine Golden Pippin, Syke House Russet, Hubbard's Pearmain, Golden Harvey, Nonpareil, Wyken Pippin, Ashmead's Kernel, Sturmer Pippin. Twelve medium-sized: Irish Peach, Benoni, American Mother, Cox's Orange Pippin, Claygate Pearmain, Margil, Ribston Pippin, Braddick's Nonpareil, Cockle Pippin, Scarlet Nonpareil, Brownlee's Russet, Court Pendit Plat. Twelve more: Red Astrachan, Lady Sudeley, Worcester Pearmain, Allington Pippin, King of the Pippins, Mannington Pearmain, Gascongne's Seedling, Rosemary Russet, Reinette de Canada, Dutch Mignonne, Duke of Devonshire, and Lord Burleigh. Pears—First twelve: Jargonelle, Williams' Bon Chrétien, Triomphe de Vienne, Beurré Superfin, Marie Louise, Louise Bonne of Jersey, Comte de Lamy, Maréchal de Cour, Thompson's, Glou Moreau, Beurré d'Anjou and Josephine de Malines. Second twelve: Clapp's Favourite, Beurré d'Amanlis, Fondante d'Automne, Beurré Hardy, Madame Andre Leroy, Emile d'Heyst, Baronne de Mello, Beurré d'Aremberg, Passe Colmar, Knight's Monarch, Winter Nelis and Olivier de Serres. Third twelve: Summer Doyenné, Beurré Gifford, Summer Beurré d'Aremberg, Gansel's Bergamot, Hacon's Incomparable, Duchesse d'Angoulême, Dana's Hovey, L'Inconnue, Née Plus Meuris, Bergamotte Espéren, Doyenné d'Alençon and Easter Beurré. We have omitted Doyenné du Comice as you mention it for house work, otherwise it should be included in the first twelve. Some of the newer Pears, such as Marguerite Marillat, Beurré Fouquerey, Fondante de Thiriot, President d'Omanville and Duchesse de Bordeaux are worth growing. Belle Julie, not new, is one of the best of October Pears, though not often seen at exhibitions. The fruit is not showy but delicious. The tree grows well and bears freely.

Doyenne du Comice Pear for Back Wall of Lean-to House Facing South with Figs (Idem).—The Pear would succeed on the wall if it receive unobstructed light, not otherwise. The trees would be more satisfactory as cordons trained under the roof. Figs would succeed on the front trained to a trellis, but they would so shade the back wall as to render it useless for any kind of fruit trees. Thus you must decide between Pears and Figs, for the house will not accommodate both. The trellis should be fixed about 18 inches from the glass. If unheated (and you do not mention hot-water pipes) the house would only give one crop of Figs in August and September.

Notching the Roots of Vines (R. R.).—It is an excellent plan to notch large bare roots to induce the emission of active feeding ones, the straight cut of each notch being on that side nearest the stem, and the notches may be on the upper and under side, alternating about 18 inches distance apart, but it is not advisable to notch the roots nearer to the rootstock than 18 inches or 2 feet. Care must be taken not to break the roots at the notches in placing them in the new soil, but making the soil rather firm under and about the parts. The old mortar rubbish used for mixing with the turf being made from lime rich in magnesia does not mean an ample supply of that element, any more than old mortar implies an amplitude of available lime, as both have long since passed into insoluble form, or are very slowly dissolved by ordinary water. There is a great difference between quicklime rich in magnesia and valuable for reclaiming warp and moor land and old mortar made from such lime, for the conversion into sulphate of magnesia will depend in the first place on the chlorine present, and afterwards on the sulphur available, both in the form of acids. We still advise the sulphate of lime, which you would get in the dissolved bones, and also the double sulphate of potash and magnesia. This is not in common use, because more costly, and not generally known as a much superior article to kainit. The mixture of the sulphates of potash and magnesia is good as a substitute, but not equal in value for the purpose indicated to the double sulphate.

Excesses on Roots of Peach Trees (J. M.).—The warty excrescences on the roots did not, so far as we could discover, contain any form of vegetable or animal parasite. The roots are certainly affected by a peculiar disease, and that rather common in many districts. It has been termed root canker. Observation and experience point to this peculiar disease being solely natural. The roots, instead of being smooth and even, tapering regularly from their foundation on the root stem to their smallest extremities, are studded with a number of irregular wart-like knots and swollen rings associated with these protuberances; these are often rusty or cankered-looking spots of a reddish colour. The swellings commonly produce clusters of adventitious buds that send up suckers. Thus root-swelling underground has mostly its counterpart in a crop of suckers above ground. This state of root is due to Nature—that of the stock upon which the variety of Peach is worked, and it plays havoc with the tree, as no one can control the fixed inherent principles of Nature. The stock is at fault, nothing else, and there is plenty of it in gardens and fruit plantations, some Peach and Nectarine trees on walls, also Plums in various positions, being wrecked, as the stock, instead of producing a number of fibrous roots, and transmitting nutriment to the scion, concentrates its forces on root protuberances, forming adventitious buds and pushing suckers. The "disease" is worst on light soils, and this has led to the deduction that the soil is unsuitable. Lifting the trees, trimming off the worst of the affected roots, and replanting in fresh soil has good result for a time. Such trees, however, return to their evil ways, and it is the wiser plan to destroy them, remove the soil bodily, supply different and better, and replant with healthy young trees. The wart-like knots are often aggravated by careless digging, cropping, and manuring of the borders. Injured roots often run into the distorted state, and rank manures sometimes so affect the bark of the roots as to lead to these protuberances. This state of root, however, is found quite apart from any cause but that of inherent tendency, and the only way to keep clear of it is not to have trees on that particular stock.

Prussic Acid Fumes for Destroying Insects (M.).—1. Probably you may get the "Agricultural Gazette of New South Wales" through Messrs. W. H. Smith & Son, 186, Strand, London. 2. The prussic acid fumes have been tried on Vines, houses full of Palms, Ferns, Roses, Violets, Carnations, and other tender plants, in the United States of America, as well as on fruit trees under tents in the open ground, without prejudice to flower, foliage, or fruit. We are not aware that it has been so used in this country, though we can claim the remedy as of English origin, as many old gardeners know that bruised common Laurel leaves placed on the floor of a house give off hydrocyanic acid fumes, fatal to insects. We used them fifty years ago as a preventive of insects; the practice is, in fact, older than any present day gardeners. 3. The generator of prussic acid is simply a stoneware jar of about half a gallon capacity. Into this is poured about a pint of boiling hot water and $\frac{1}{4}$ pint of sulphuric acid, and when this begins (in a minute or two) to boil rapidly, add the cyanide of potassium, in the proportion of one and eight-tenths of a grain to every cubic foot of free space contained in the house or tent to be operated upon, deduction being made of that occupied by staging, heating apparatus, pots, soil, plants, or trees, so as to get at the exact number of cubic feet of air the fumes have to fill. Of course the house or tent must be close, and in exactly twenty-five minutes from the time the cyanide was introduced into the boiling sulphuric acid solution the fumes will have killed all insects. Then with the sashes of the house or the flaps of the tent thrown open, in about twenty minutes or half an hour the house or tent will be safe to enter. All this reads encouragingly, but—and an important "but" it is—the operator or operators must be careful not to partake of a sniff of the fumes, as if he or they do there will be an end of him or them as well as the insects. The fumes will kill every living thing in the animal world that breathes, and will also scorch the young leaves and growth of vegetation if there be any moisture on them. All damp, therefore, must be driven out of the house or tent, and the foliage must be quite dry. The operator must therefore stand back a few paces whilst the cyanide is doing its deadly work. The very nature of the article precludes its use in conservatories or plant houses attached, or even near to, dwelling houses. We should imagine the use of such a deadly article to be attended with grave dangers, and we say emphatically let it alone, as insects can be destroyed by other means infinitely safer, in fact absolutely safe, to the operators.

Peach to Follow Early Beatrice and Proceed Royal George (W. N.).—Dr. Hogg bears forcing well, and ripens in a house started at the new year at the beginning of June, as also does Early Alfred. We should, however, choose the third you name, Hale's Early; it is an excellent second early variety, of medium size and first-rate quality.

Early Spring and Summer Anemones (Young Head Gardener).—The following are the principal forms noticed:—Single and double Poppy, single and double French Giant Poppy, double Chrysanthemum-flowered, single and double Peacock, with *A. fulgens*. All delight in a rich sandy loam, but most will thrive in ordinary garden soil. For the Poppy and Chrysanthemum-flowered varieties, both single and double, the soil can hardly be too rich, and the position though open should be a sheltered one, and well drained. The tubers are planted either in September or October, about 6 inches apart and 3 inches deep. After flowering the tubers would be lifted—say in June—and spread out thinly in a shaded airy situation until they are dry, when they may be thoroughly cleansed and stored in a cool place, in pots or boxes of dry sand, until the planting season. Some growers leave the tubers in the ground and only take up occasionally for dividing the roots. Other growers rely largely on plants from seed sown as soon as it ripens, a careful selection of flowers and skilful crossing being resorted to. The Peacock Anemones are planted in September or early in October, and are left undisturbed. *A. fulgens* and its varieties are also planted in September, though they may be planted in spring. Left undisturbed the first two years' blooms will be most abundant, transplanting at the end of the second year to make fresh roots.

Insects on Brussels Sprouts (C. W.).—The sprouts are infested by the Cabbage aphid, *A. brassicae*. The pest has been very troublesome this season, as is usual after a long period of dry weather. There is no means of preventing such attacks, but by assailing the pests on their first appearance their effects may be greatly mitigated. For this purpose spraying with extract of quassia is the most harmless as regards the crop for use, and one of the most effective preventive and remedial measures, applying according to instructions. On account of the taste left on vegetables by such applications as petroleum emulsion and tobacco water, we have had recourse to spraying upwards as well as over the plants infested with water at a temperature of 130°, and found the result very satisfactory. Lime water is also good, as is also a solution of salt and soap applied with a syringe. Almost any of the advertised insecticides will destroy the aphides, but to have the crops fit for use the treatment must begin early, which is really the great point, and thus secure clean growth and allow time for the remains of the insecticide to be washed off by rain. We did not notice any of the small white fly, but, according to the description it is no doubt the snowy fly, *Aleyrodes proletella*, which rests for the most part on the under side of the leaves and draws away the juices with its suckers. Syringing upward or, better, spraying with tobacco water, is the best remedy, but for reasons before given in respect of using the vegetable we have been obliged to use lime water, and even hot water, against the pest. It would be advisable to give the land a dressing of fresh gas lime when not occupied with crops, or in the autumn, using about $\frac{1}{2}$ cwt. per rod, spread evenly on the surface and left there for a month or six weeks before digging in. This often cleanses the land from various pests, but it cannot always be used in gardens on account of the smell and where there are fruit trees, over the roots of which the gas lime must not be employed.

Names of Fruits.—Notes.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (J.)—Bramley's Seedling. (J. T.)—1, Herefordshire Costard; 2, Cobham, a fine form of Blenheim Pippin; 3, Emperor Alexander; 4, Stirling Castle; 5, Cox's Pomona, small; 6, Clifton Nonesuch. (F. L.)—Owing to the delay in transit through your misdirecting the package two of the Pears were considerably decayed; the correct address for all editorial communications is given weekly at the head of this column. 1, Beurré Diel; 2, malformed and decayed; 3, Bonne d'Ézée; Apples—4, Tyler's Kernel; 5, Lewis's Incomparable; 6, Gloria Mundi. (G. M.)—1, Ribston Pippin; 2, Norfolk Beefing; 3, Ross Nonpareil; 4, Small's Admirable; 5, Golden Spire; 6, Roundway Magnum Bonum. (J. D.)—The Apple is Beauty of Hants; Pear Baronne de Mello. (R. C.)—Unknown, possibly local seedlings that never had recognised names. (T. G.)—1, Ten Commandments; 2, uncertain, possibly Cellini; 3, Round Winter Nonesuch. (F. M. M.)—The

Apples are Graham's Royal Jubilee. (A. W.)—The Pear is so malformed that it is impossible to identify it; send a typical fruit, and we shall be glad to assist you.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (C. R. B.)—1, *Iris foetidissima*; 2, *Solanum nigrum*. (L. H.)—*Juniperus recurva*. (W. E. T.)—1, *Tecoma capensis*; 2, *Veronica Andersoni variegata*; 3, *Aralia Veitchii*; 4, *Asparagus deflexus*; 5, *Dracena indivisa*; 6, *Ficus repens*. (L. M.)—1, *Asplenium bulbiferum*; 2, *A. biforme*; 3, *A. viviparum*. (W. L.)—*Arum italicum marmoratum*.

COVENT GARDEN MARKET.—NOVEMBER 22ND.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3 0	5 0	Grapes, black	0 6	8 0
" Canadian, barrel ...	10 0	15 0	" Muscat... ..	1 0	8 0
" Nova Scotian, barrel	10 0	17 0	Melons each	0 6	1 6
Cobnuts per 100 lb....	60 0	70 0	Pears, Californian, case...	6 0	9 0
Lemons, case	14 0	20 0	Pines, St. Michael's, each	1 0	6 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	8 0	4 0	Leeks, bunch	0 8	0 0
Asparagus, green, bundle	4 0	4 6	Lettuce, doz.	0 6	0 10
" giant, bundle	15 0	20 0	Mushrooms, lb....	1 8	1 6
Beans, Jersey, per lb. ...	0 6	0 8	Mustard and Cress, punnet	0 2	0 0
" French, per lb.	0 4	0 5	Onions, bag, about 1 cwt.	4 0	4 6
Beet, Red, doz.	0 6	0 0	Parsley, doz. bunches ...	2 0	4 0
Cabbages, per tally	7 0	0 0	Potatoes, cwt.	2 0	5 0
Carrots, per doz.	2 0	8 0	Seakale, doz. baskets ...	18 0	21 0
Cauliflowers, doz.	0 9	1 6	Shallots, lb.	0 8	0 0
Celery, per bundle	1 0	1 3	Spinach, per bushel... ..	2 0	4 0
Cucumbers, doz.	2 0	4 0	Tomatoes, per doz. lbs. ...	2 0	5 0
Endive, doz.	0 9	1 8	Turnips, bunch... ..	0 8	6 4
Herbs, bunch	0 2	0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8 0	10 0	Maidenhair Fern, doz.	6 0	8 0
Asparagus, Fern, bunch...	2 0	2 6	bnchs.	3 0	4 0
Carnations, 12 blooms ...	2 6	3 6	Marguerites, doz. bnchs.	6 0	9 0
Cattleyas, per doz.	10 0	18 0	" Yellow, doz. bnchs.	1 6	2 6
Chrysanthemums, white	6 0	9 0	Mimosas, per bunch ...	6 0	8 0
doz. blooms	6 0	8 0	Mignonette, doz. bunches	2 0	6 0
" yellow doz. blooms ...	0 6	1 6	Narcissus, white, doz. bun.	5 0	7 6
" bunches var.	6 0	8 0	Odontoglossums	8 0	12 0
Eucharis, doz.	4 0	6 0	Pelargoniums, doz. bnchs	6 0	8 0
Gardenias, doz.	6 0	12 0	Roses (indoor), doz....	6 0	8 0
Geranium, scarlet, doz.	12 0	15 0	" Red, doz.	1 6	2 6
bnchs.	8 6	4 6	" Safrano, packet ...	8 6	6 0
Lilium Harris, 12 blooms	8 6	4 6	" Tea, white, doz. ...	5 0	7 6
" lancifolium album ...	8 0	12 0	" Yellow, doz. (Perles)	8 6	5 0
" rubrum	18 0	24 0	Smilax, bunch	2 6	5 0
" longiflorum, 12 blooms	5 0	8 0	Violets, Parma, bunch ...	1 6	3 6
Lily of the Valley, 12	5 0	8 0	" dark, French, doz.	1 6	3 6
sprays	18 0	24 0	" English, doz.	1 6	3 6
Lilac, white, bundle ...	5 0	8 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	8 0	Ferns, small, 100	4 0	8 0
Aspidistra, doz.	18 0	20 0	Ficus elastica, each ...	1 6	7 6
Aspidistra, specimen ...	15 0	20 0	Foliage plants, var., each	1 0	5 0
Chrysanthemums, per doz.	6 0	12 0	Lycopodiums, doz. ...	3 0	6 0
Orotans, doz.	18 0	80 0	Marguerite Daisy, doz. ...	10 0	18 0
Dracena, var., doz.	12 0	80 0	Myrtles, doz.	6 0	9 0
Dracena viridia, doz. ...	9 0	18 0	Palms, in var., each ...	1 0	15 0
Erica various, doz.	80 0	60 0	" specimens	21 0	68 0
Huonymus, var., doz. ...	6 0	18 0	Salvias, scarlet, doz. ...	6 0	12 0
Evergreens, var., doz. ...	4 0	18 0	Solanums, per doz. ...	9 0	18 0
Ferns, var., doz.	4 0	18 0			

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. Brian Wynne, 8, Danes Inn, Strand, London, W.C.



TOWN AND COUNTRY WAGES.

A COUNTRY clergyman, whose favourite recreations, as described by himself, are "visiting his parishioners, grumbling at the weather, growing Apples and Potatoes, and driving an old horse as far as he'll go," is sure to be one whose opinions on rural life and its different phases are well worth the hearing.

Dr. Jessopp, of Scarning, Norfolk, is such a one, and his views and comparison of the relative positions of town and country labourers are reviewed by the Hon. Percy Wyndham in an able article in the October number of the "Nineteenth Century Magazine."

Comparisons of actual wages paid in different towns and in their rural equivalents are adduced to show that, from one end of England to the other, the net earnings of the day labourer, after deducting rent and rates, are no higher in the town than in the country. Two pairs of cases from the west country show in one an annual advantage to the countryman of £3 0s. 6d., in the other an advantage to the townsmen of £1 7s. 6d.

As a fact it is very seldom that the young fellow of twenty migrating to the town makes any immediate improvement in his monetary position. A good second waggoner will have been receiving at least £20 per annum besides his board and lodging, and it is not often that they start work in the town at more than 20s. per week, say £52 per annum. From this must be deducted 12s. per week for board, lodging, and washing, leaving a balance of £20 16s. as against the previous wage of £20. As he may lose time from illness or enforced holidays his net earnings may very easily and probably be less than before.

A week or two ago we were travelling by rail and were joined at a wayside station by a youth of eighteen or so (apparently). He was very full of conversation, and informed us that he had left his place—i.e., situation, and thought of going into the town. It appeared that the reason of his leaving his place was his having had a few words with his master on some trivial matter, and the master had very kindly let him go. Now this youth on his own showing had left £20 per annum in addition to board and lodging, and was cheerfully facing town life in anticipation of a wage of £52 to find himself in food and lodging. A suggestion that the attractions of town life, the theatre and the music hall, were factors in the case met with a cheerful response in the affirmative; and so it is, the more highly paid life of the town provides attractions which are lacking in the country, and the lads of the villages having been educated to appreciate the luxuries of modern life cannot be retained where the so-called "life" does not exist.

We fear that in many country parishes the clergy have much to answer for in allowing their parishioners to become alienated from the charms of rural life; the fact that they have not been country bred themselves having had much to do with their non-appreciation of the needs of a rural parish. But we are running away from our practical subject—viz., town and country labour.

There can be no doubt that at the present time labour is very scarce in the country districts, and that the two chief causes which attract the men from the village to the town are, cheap and constant amusement in the evenings, and the prospect (not always fulfilled) of a better living wage.

What can be done to keep the men at home? There appear to be only three antidotes likely to have any influence on the complaint in question. The first is the payment of better wages and the certain conviction in the mind of the labourer that he cannot mend his position by going to the town. Well! The current range of agricultural prices does not give much encouragement to the idea that higher wages may be paid; in fact we know

that the price of labour has already risen to a point which presents almost insuperable difficulty to some of the most enlightened and enterprising of farmers.

The second factor likely to keep men at home in the villages would be the provision of similar attractions to those met with in the towns. Here, again, the question of £ s. d. blocks the way, even if it were desirable to make a Capua of every Sweet Auburn.

The third solution is the certainty of a fairly good wage with the prospect of a small holding, leading up to a larger one and independence. The great obstacle to the taking up of small holdings has been the uncertainty of tenure. The labourer, having been reared in an atmosphere of uncertainty; having seen, either in his own case or in that of neighbours, the arbitrary movements of household gods at the whim of landlord or employer, is shy at taking up land whereon he will have to gradually put together the necessary homestead, unless he has such security as absolute fixity of tenure alone can give him.

It would appear to us that there is little prospect at present of the country being able to keep its sons at home, and the scarcity of labour will still further help to decrease the arable area. It may thus come about that the three F's, which have been so much talked of by politicians, may, without any legislation whatever, become the basis of a new departure in the world of agriculture.

The landlord, rather than reduce the rent to the arable tenant, who, in default of suitable labour, wishes to practically turn his farm into a sheep run, may be induced to cut the farm up into small holdings; but he must either provide buildings (the expense of which would be prohibitive), or give security to the tenant who would and could provide them. This would mean either a very long lease, or such compensation for buildings as would really mean fixity of tenure. Freedom of cultivation is now so essential to small as well as large holdings, that the third F may be taken for granted.

WORK ON THE HOME FARM.

With Wheat sowing completed and the Mangold crop taken up and stored, all the Potatoes having been in the pie for some time, we are able to look round and do many little jobs that are put off until a slack time. Unfortunately slack times on a farm rarely occur, and so many of these trivialities are postponed longer than they should be.

One very necessary piece of work is the gathering together, cleaning, and putting in shelter of the many implements, both small and large, that may not be required until spring or summer. In many cases a coat of paint will well repay the cost. Not a month ago we saw a horse hoe standing between two rows of Mangold where it had been since mid-summer. How much better it would have been in the shed. We have seen harrows left reared up to stop gaps, but uneconomical as such a practice was, the harrow was serving a useful purpose, whereas the horse hoe was suffering deterioration for nothing.

All working parts of machinery not in use should have been well oiled after cleaning, as they will much more readily be again fit for use when wanted. Ploughing down the fallows is now the chief work of the horses. The chilled plough is not only the best for this work, leaving the land looser and more open to frost action than the ordinary plough does, but the work is more economically done. The double or treble furrow ploughs will do the work at perhaps as small a cost, but they will not turn as deep a furrow neither will they so thoroughly cut the Thistles.

Sheep are doing well, but the prospect of the root supply does not improve. The mild weather is keeping cattle out in the pastures. The animals are doing little good, but every week of time spent shortens the winter and brightens the outlook.

Barley has fallen so much in price that it now appears to be cheaper than cake as a food for cattle, and we have little doubt that large quantities will be ground and used to mix with oat straw. With treacle, barley meal and malt culms or grains and a plentiful supply of straw there should be no anxiety about the growing stock. Butter keeps a fair price, and eggs are dear because there are none, but fowls are cheap and will remain so as long as pheasants are so plentiful.

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Journal of Horticulture.

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THE LEAF HARVEST.

THE harvest is ready, but those who appreciate it are few. Why is it so? Many who should most appreciate this rich and certain crop appear to regard it as an intolerable nuisance, hence such apologies are tendered to the casual caller as, "Oh, you must excuse us, we are in a horrid mess with leaves. 'What a plague those leaves are, surely,'" says another; and still another passes a remark which is more pertinent from his point of view than polite from ours. Why such an unqualified blessing should be perverted by the man of mould into being one of the worries of life it is not easy to say, unless it is that the powers that be also regard falling leaves as an abomination. Then, of course, circumstances alter cases. Master and man must needs go hand-in-hand, and the wishes of the one be interpreted as commands by the other. Yet how often in some subtle and indeterminate manner this order is reversed, and our rulers are made the scapegoats of a narrow-minded prejudice they may never entertain. In many places from such time as the flight of autumnal tinted leaves begins, till the last lingerers are scrupulously removed, there is a scratching and scraping, a sweeping, and swearing as ludicrous as it is lamentable on reflecting how few gardens are adequately supplied with that most precious commodity, leaf mould.

Oh, the pity of it! The waste of time, of precious material; the perversity of all pertaining to it. Is there anything so dreadful in those rich brown leaves which every breeze sends scampering across grass and gravel, or the fiercer blast swirls up into the corners and down into the hollows? "Drat them leaves; his lordship don't mind em', but I do; not a bit o' peace till they're all down." Ah! one thought on hearing this, here is a man groaning under a self-imposed burden, and yearly, for three months right off, he is thus chronically tormented. Here it is the man and not the master to whom falling leaves are such a bugbear. How many cases run on parallel lines? Half one dares to suspect, and the other half are open to conversion into a gardener's way of thinking if he wills to

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think that the way to convert this bugbear into a blessing is to let the leaves rustle away until the bulk is laid low, then to commence his harvest in a methodical manner.

This day (in the third week of November) we have commenced our harvest, and being a heavily timbered place, the crop is abundant. The benefits contingent upon waiting until the main crop is ready chiefly consist of the facility with which many loads of clean leaves are gathered and deposited in a few places about the grounds specially selected for convenience and privacy. One place consists of a disused sandpit, and here from a circumscribed area all are gathered together. Another lays concealed in the depths of a shrubbery, where all from that quarter find a resting-place; and again, the Beech plantation which fringes the demesne provides several depôts and the wherewithal to fill them. As against this system, the usual routine of gathering up leaves as they fall rarely provides good leaf mould, and that only in limited quantity compared with the abundant material at hand, for with the incessant cleaning, all Beech mast and twiggy matter, not to mention a liberal addition of gravel rubbed from walks and drives where loose gravel prevails, practically spoils the crop for garden purposes. Now, at this time of the year, for every ten loads of good clean leaves the final sweeping gives one load of rubbish, which is deposited elsewhere.

Valuable as is leaf mould in the potting shed, the advantages of having a bountiful supply of half-decayed leaves can hardly be over-estimated. During the past autumn fully fifty loads taken from one of our largest depôts were incorporated with the soil in the flower beds of our rather extensive formal garden, and as a manurial agent for the ordinary types of plants used to fill these beds for either summer or spring display it is found to be infinitely preferable to the heavier farmyard dressing. It may also be mentioned that for every five cartloads a sixth of sharp sand was added, well worked through it with forks ere being wheeled to the beds. "Why, that stuff would grow anything," said an interested visitor who saw the operation. He was right, and a dozen examples might be given in which the results are almost startling. One only need be given now, and that consists of a hundred clumps of the old *Schizostylis coccinea*, which were transplanted into similar compost last spring. As compared with the specimens of this charming old-fashioned plant generally seen, these are robust in the extreme; the spikes of bloom now in full beauty in a sunny corner being not unlike miniature *Gladioli* in size and vigour.

There are, of course, leaves and leaves, some of which bear an indifferent character from the utilitarian point of view. There is, however, no need to discriminate in harvesting, all are leaves that come into our cart, although the Oak and then the Beech are most in favour. The main point, as previously remarked, is to gather them as clean and free of twiggy or other undesirable matter as possible, which can only be done when they lay on the ground in quantity. To sum up, there are many, doubtless, who, whilst acknowledging the force of this argument, will object to the principle on the score of tidiness. The economy of time and labour is too obvious to dwell upon; to this little can be said beyond remarking that if we could for the nonce raise our views (or drop them) sufficiently to shut out for a brief space that formidable barrier it would be of distinct advantage to all concerned.—A. N. OLDHEAD.

THE FRUIT CROP OF 1899.

SOME little time ago our esteemed Secretary asked me to give a few notes on "The Fruit Crops of 1899," a somewhat barren subject at the best, and I asked myself the question, What can one say upon a matter like this that has not been said and repeated time and again? I found no answer to my question, and I have no excuse for my appearance except the poor one that I am acting in accordance with our Secretary's orders. It is easy for those who are gifted with the pen of a ready writer to hang an article or write a paper upon any text, but, unfortunately, I do not find myself in that happy state; nevertheless, having set

out I must carry it through somehow, and I crave your indulgence if I wander slightly at times from the texts.

STRAWBERRIES.

Firstly, then, we must, I think, admit that, speaking generally, the season of 1899 will have to be numbered amongst the poor fruit years, and the best we can say of it is that good crops have been extremely partial. Certain favoured spots have produced fine crops of fruit, and the fortunate possessors have had a good time, sending fruit to markets and with the scant supplies receiving good returns in the way of money in exchange. To commence with Strawberries, certain localities had good crops but the fruit was never plentiful, nor did one see much of it on the coster's barrow. In our local markets the price ranged from 8d. to 6d. a lb. and back again to 8d., which would show that they were not in any way abundant. Our local growers had an excellent crop and first-rate weather for picking, and consequently scored a great success, but in the county of Kent, where our largest supplies usually come from, one heard of hundreds of acres of Strawberries being ploughed in as there was no crop worth picking.

The cause of this disaster is not far to seek, and I think we may safely say that it was the long drought of 1898, for although we had a very trying spring this year, with late frosts and cold winds of long duration, I do not think that the spring weather would account for this total failure. Of course one knows that spring frosts will blacken and destroy Strawberry flowers when they are expanded, but the blooms do not all come out at once, and it takes a considerable frost to kill the unopened buds; moreover, many growers tell me that they had no blooms to begin with.

Speaking of my own personal experience, our trial beds of one-year plants, set thickly, were rarely, if ever, better, and we had so much fruit that a large proportion was wasted. It would not be of much interest for me to give a list of those varieties which did best, for I find that no fruit varies more in cropping and quality in different districts than does the Strawberry, and even from season to season one is compelled to form fresh opinions respecting many varieties; for instance, during the past three or four years *Late of All* has been grand, and (although it is not one of the latest, by the way) it has been greatly in demand and a general favourite; this year, in spite of our having had a genial rain prior to their ripening, the fruits were many of them hollow and insipid. *Royal Sovereign* was *Al*, immense crop and good flavour; and amongst the earliest nothing came up to *Scarlet Queen*. I often wonder why this variety has not come more to the front. During the Strawberry season I generally have a walk round the beds before breakfast, when the fruit is at its best, and one can best appreciate its flavour. I found my steps generally led me this season first to the *Scarlet Queen* beds, later to *Royal Sovereign*, and afterwards to *Auguste Boisselot* and *President*, my special favourite, *Dr. Hogg*, having failed to crop this year.

Speaking of the joy of eating these delicious fruits in perfection, is it not lamentable to see the stuff set before the general public for consumption? I live now in the city of Nottingham, a place with 260,000 inhabitants, many of whom are quite willing to pay a good price for a fair article, and yet I never once saw a nice punnet of clean fresh fruit which one would take a pleasure in eating, but only heaps of fruit which, however good when first turned out of the baskets, by repeated handling and weighing soon look as if the proprietor had made his bed upon them overnight.

SMALL FRUITS.

But to turn from this somewhat unsavoury subject, I may say that in the Midlands, despite the harsh spring, the crops of Gooseberries and Currants have been excellent, although in some localities the Black Currants suffered from lack of moisture. Speaking of these fruits reminds one of the boom which was made some years ago over *Berry's Early Kent Gooseberry*, which turned out to be an extremely old friend—*Keepeake*—under another name, and this year we have fruited the new *Comet Currant*, which we are unable to distinguish in any way from *La Versailles*. There is a difference between the two, but it consists in the fact that the first named cost us 2s. 6d. a plant and the others did not.

Whilst we are thinking about small fruits I should like to ask if anyone has fruited the Japanese Mayberry? I have asked many, but cannot hear of anyone succeeding with it. With us it has been out each year by the spring frosts, and although in America it withstands a very low temperature with a dry atmosphere I fear it is useless in this country. The Strawberry-Raspberry we have most of us fruited, and I presume that everyone will agree with me that although it may be considered as an interesting and somewhat striking addition to our mixed border, it has scant claim to a position in the fruit garden. The Loganberry has, I think, come to stay; it has a flavour quite of its own, a mixture of Blackberry, Raspberry, and a decided dash of Mulberry; it is by no means to be despised as a dessert fruit when fully ripe, and it is really excellent when preserved.

Speaking of preserves, some persons will possibly remember having tasted that most delicious Medlar jelly which our friend the late Mr. Rivers brought several years ago to the Fruit Committee. I was privileged in my school days to be the recipient of divers boxes of Guava jelly, which a relative sent from Brazil, and I used to think that nothing could ever equal it in my estimation, but Mr. Rivers' Medlar jelly would, I think, run it very closely. Alas! I have tasted neither of late, so cannot well compare their merits, but I feel sure that Medlar jelly would find a ready sale if it were cunningly prepared, and as the Medlars can be worked on any hedgerow there need be no difficulty about providing ground for them. I throw this hint out to any who may wish to make a fortune, and trust that when the money comes rolling in they will remember me substantially. I am not supposed to be writing about new fruits, but I may mention incidentally that two new Black Currants carried crops of fruit this season with me; the first, called Early Black, had a large crop of very small fruit, which dropped off as soon as ripe; the second, Golden Black, was a very sweet Currant of a dirty, muddy brown colour and most unattractive appearance.

PLUMS AND DAMSONS.

Passing on to Plums, these were somewhat patchy in the Midlands, some localities having practically no fruit at all whilst others had a very fair crop. It is, I know, the custom to lay the blame of all failures upon spring frosts, but mischievous as these undoubtedly are, I think that much loss is charged to them of which they are in a great measure guiltless. What I mean is this, when trees are suffering from an overcrop the previous season, and oftentimes also from a lack of manure, the blossom is more easily damaged by spring frost than would have been the case had the trees been in more robust health. I noticed particularly this year that the Plum and Damson bloom at Chilwell was almost entirely destroyed, whilst at Lowdham, thirteen miles away, in the same valley, with the same climatic conditions and what seems an exactly similar soil, the trees were well loaded, in fact many Victorias had to be supported with props to prevent the trees being broken. I have purposely said "what seems to be an exactly similar soil," for although the soil is on the same geological formation and to all appearance is as much alike as possible, I believe that some difference exists (which possibly a chemical analysis would show), and that this difference in the constituents of the soil is the main cause why one village is essentially a plum district whilst the other cannot lay claim to be anything more than a fair-weather locality for Plums. It may illustrate this point more clearly if I state that for twenty years we never saw fruit upon young nursery trees of Pond's Seedling, at Chilwell, whilst this year, at Lowdham, although an unfavourable spring, three-year feathered standards were roped with fruit; also untrimmed standards of Brussels and Brompton Plums, used for stocks, carried fruit, which I have never seen any but old-established trees do at Chilwell.

WEIGHTS AND MEASURES.

Our neighbours made an excellent price of their Plums and Damsons, the latter realising the comfortable figure of 3s. per peck of 18 lbs.—in 1877 we sold Damsons at 11s. 6d. per peck, but the crop was so thin that they did not pay very well even at that price. Speaking of pecks, is it not absurd that although these measures are supposed to be abolished, each local market, not to leave out London which heads the list in these absurdities, has its own terms of pecks, bushels, baskets, sieves, pots, and what not, the meaning, or rather weight, of which not one person in a dozen living in the district understands, and still fewer out of it? For example: a housekeeper in Nottingham buys a peck of Potatoes and receives 20 lbs. If she weighs her purchase and subsequently buys a peck of Pears or Plums she thinks they are short weight, because they only weigh 18 lbs. a peck, Apples 16 lbs., Black Currants 14 lbs., Beans 9 lbs., Peas 8 lbs.

What idea do these quotations of pecks, pots, and others, convey to the intelligent grower in another county who is trying to study our market's prices? Our old-fashioned tons, hundredweights, quarters and pounds, are somewhat cumbersome as compared to the metric system of our continental neighbours, but these local measures and weights for fruits, corn, and other things, are "confusion confounded."

PEARS AND APPLES.

Pears this season were generally a failure, and the French producers must have had a good time if they received anything like a share of the 2½d. each for which very ordinary Williams' Bon Chrétien were retailed in our shops. Strange to say, as soon as home-grown fruit came in (certainly within a fortnight) better Williams' could be bought at 3d. per lb.; what a profit to the grower would have resulted from the use of a tiny bit of thin blue paper wrapped around each fruit!

Apples in the Midlands have been almost an average crop; some varieties, indeed, have produced a heavy crop. I wish someone who has the time to study such things would tell us why certain varieties almost always pull through the worst of spring weather, whilst others alongside, in bloom at the same time, quite as constantly succumb.

One of our leading nurserymen once told us that the hardy varieties were those in which the petals incurved, but the little observation I have given to this point does not quite bear this out, and I think the reason is still to seek.

If there is one fact which stands out more prominently than another in respect to the fruit crop of 1899, it is that the British gardener can, despite the weather, produce a sample of hardy fruits which it would puzzle any other portion of the world to excel. Every visitor to the Crystal Palace Show must have been amazed to find that, with all the talk of failure of crops, cold, ungenial spring, and burning, droughty summer, the fruit exhibited was really splendid. When one tries calmly to carry one's mind back to the Apple and Pear Congress of 1888 and the samples of Apples and Pears which were then exhibited and considered good, one cannot but marvel at the enormous progress which has been made in the production of fine fruit. I venture to say that many market samples from young and well-cared-for orchards of to-day are far superior to the picked fruit which was exhibited at the Conference in 1888.

THE EDUCATIONAL VALUE OF CONFERENCES AND SHOWS.

It would be difficult to exaggerate the value of the Apple and Pear Congress, the great Guildhall Show, and the subsequent Crystal Palace Shows from an educational point of view, and I am sure everyone will agree that the effect they have had in stimulating growers to produce better fruit has been simply marvellous. To many visitors at the earlier shows the fruit exhibited was a revelation; they had no idea such fruits could be produced in the open, still less had they any thought that such fruits could be grown anywhere except in favoured Kent and Devon; and yet to-day the Midland exhibitors stage fruits superior to the best seen in 1888, whilst our friends from Maidstone, Exmouth, Bassaleg, Hereford, and other places have made still further progress in excellency.

This march of progress is a matter of congratulation to all, for it is undoubtedly only by the production of fine fruit of high quality that we can hope to command our home markets, or to make fruit growing a commercial success. That our exhibitors can much improve upon the results already attained with our present varieties of fruits we can scarcely hope, nor can we expect that market growers can quite attain the high level at which our friend Mr. Woodward, of Barham Court, stands; but some of them are close upon his heels, and when one looks back upon the market samples of fifteen years ago, and tries to compare them with the best of to-day, one can but rejoice. I say the best of to-day, for unfortunately there is still a fearful amount of rubbish sent to market, but its day is over, and it must soon be a thing of the past, from the simple fact that the public will not buy it at any price, and the only market open for it is the "smasher," by which term I suppose all will recognise the jam maker, who uses these small fruit as a basis upon which to make several kinds of jam, which are not always sold under the name of Apples. Our local growers have been making from 40s. to 55s. per ton of small Apples sent to the jam factory, but they do not like the price, and many of them are now planting orchards of bush fruits on cultivated land, and intend shortly to lay to the axe in the old orchards to provide some Christmas fuel.

I must apologise for having wandered somewhat from my subject, but I have been preaching improvement in fruit growing for so many years now that I find it difficult to keep away from a matter which is, after all, slightly connected with the fruit crop of 1899, nor can one help rejoicing when one sees the improvement which has been already effected, for the question is one of no mean importance or narrow bounds.

Seeing that during the past fourteen years we have imported no less than 55,727,756 bushels of Apples, valued at £15,726,476, the question is of some importance financially, especially when we see that the imports are rapidly increasing, and that the average price is higher during the latter half of the period than it was during the first seven years. This shows that the taste for fruit is increasing; a fact which is hopeful for the grower, and of great importance to the health of our people, for all medical authorities are agreed that fresh fruit is most beneficial to health, and is especially needed by the dwellers in towns and cities.

But the question of improved fruit culture does not end here, for if the industry of fruit growing can be made to pay in the future, as it most undoubtedly has done in the past, I know of nothing which will help to solve the difficulty of making the land reproductive to the capital and labour bestowed upon it, and of inducing men to live upon it and make their homes in the rural districts like this same fruit culture. I find nowhere such thriving villages in districts not dependant upon manufacturers as those in which fruit growing is extensively carried on, and if only for this reason the matter is of national importance. We see tracts of land in the Highlands of Scotland which once maintained a sturdy race of cottars, nearly all of whom sent a member to our Highland regiments, now, alas! cleared of human habitations and sacred to the grouse or red deer; we see thousands of acres of land which in our younger days was in culti-

vation and maintaining a contented and healthy population, now laid down to grass, and we ask ourselves the question, Whence are our great towns and cities to receive fresh blood and sinew, whence shall come our future stalwart soldiers? I know not, unless it be by the help of fruit growing, market gardening, and all kinds of small culture, and this is why I say this is a question of national importance. —(Paper read at the Horticultural Club by MR. A. H. PEARSON, *Chilwell*.)

PLANTING TIME.

HAPPY is the man who plants while early winter is still tempered with the kindliness of autumn; yet, unfortunately, such things are with some more a matter of opportunity than of choice, and perchance may have to be postponed to a more convenient if less propitious season. Henceforth from now, when the great harvest of leaves is waiting to be gathered, till such time as bursting buds renew the promise of spring, all sorts and conditions of planting will be in evidence—good, bad, and indifferent. Good, when done at the right time and in the right way; bad, when it is regarded by busy men as a bother, interfering with ordinary routine, and trees, shrubs, or what not are heeled in, instead of being promptly set on their feet to give them a good start in life; indifferent, whenever done if done in a slovenly manner.

Yet, again, there is a nervous energy (it is very infectious too) which will not—cannot wait; must hurry things out of the ground and hurry them in while autumn suns are strong in summer power. It will tell you of warmth in the ground which must be caught ere it evaporates, and it will not forget to repeat the old saying "Plant a Laurel in autumn and command it to grow, plant it in spring and beg it to live." If only extremes would meet on the border line of common sense this feverish anxiety would not have furnished an instance lately seen, where some large evergreens were transplanted early in October and are now suffering severely, to point a moral. How often, too, are these planters of the early bird type aided and abetted by the nurseryman in his haste to execute orders which have been previously booked. Some years since an order for Roses given by the writer, at a Rose show, resulted in their coming to hand in warm autumnal weather, and, although promptly attended to, shrivelled wood was already apparent, and an after-crop of trouble was raised about "those Roses."

If more haste means less speed in commencing the planting season, most will admit that delay is doubly dangerous when near its close in the spring, and, given congenial weather, the bulk of all planting may well receive that consideration it deserves on the old-year side of Christmas. Doubtless unsatisfactory results may not infrequently be traced to slovenly planting, at whatever time it is done. For the first year bad effects on tree or shrub may not be so apparent as afterwards, when the roots meet a chilly rebuff in the uncongenial outlines of a hard shallow basin in which they have been set. *Apropos* of this, an old gardener remarked, "it's not planting, it's shoving 'em in."

Two neighbouring estates have lately afforded examples of planting *v.* "shoving 'em in." The bad example consists of a mixed plantation made some ten years since to shut out the view of a public road. The plants used were chiefly evergreens, and mainly consisted of *Pinus austriaca*, which generally does well in the locality. There is now, and has been for several years, sufficient evidence to prove that something is wrong, and radically wrong, inspection showing that the unhealthy plants had been set in shallow basins, which, owing to the hard texture of the soil, confined the roots from the start, and offered no encouragement for them to permeate further. They were, indeed, "shoved in," and loss of money, time, and temper is the result.

Conspicuous failure as the above was and is, no wonder that a neighbouring proprietor, who was anxious to have a plantation in a similar position, should hesitate, said in fact, that Mr. —'s trees were the wrong sort for the place, which was easily refuted in pointing to the many fine isolated specimens of *Pinus austriaca* visible in the surroundings. However, three years ago the plantation was made and is now a flourishing witness to sound initial work. Owing to the hard nature of the soil, as previously remarked, a good deal of labour was expended in taking out the holes, and it may be added all were prepared ready for the trees ere they were allowed to be sent from the nursery. These holes were excavated 2 feet deep and 2 feet across the top, but it was insisted upon that they should be made somewhat broader at the bottom, like an inverted basin in fact, and much of the spade work, owing to the nature of the ground, had to be supplemented by an iron bar. The top spit, consisting of old pasture, was placed in the bottom of each hole, grass side down, every hole being guaged prior to this, the entire job of excavating being let to labourers by task. It is admitted that the preparations were both tedious and laborious to what generally obtains, but it was considered that the end in view justified the means, and of a thousand Pines which formed the backbone of this planting, ninety-nine out of the hundred are in vigorous health, the small percentage of failures

occurring among *P. insignis*, which is not so tractable a kind under removal.

A word in season may be added respecting the removal of larger specimens with balls of soil. The desirable object of retaining a ball is often frustrated by attempting too much, and during the shifting, in spite of the use of mats or sacking, a vertical split will sever many of the fibrous roots. Far better is it to reduce the ball with a fork as far as appears to be consistent with easy removal by the means at command. Success in this kind of transplanting depends, of course, very much upon the nature of the soil as well as the size and habit of the specimen. Instances occur in which work of this kind would have been better never attempted, for trees which have been growing undisturbed, for some years, maybe, in a shallow soil with their roots ramifying over a considerable surface area, are apt to remove very badly, and the question is often forced upon one that the game is not worth the candle. Remarkable successes are, of course, pointed to with pride; of the failures little is heard, an opinion apparently obtaining that the least said about them the better. —WESTERNER.

VINES ON OPEN WALLS.

WHAT very interesting articles on Grapes and Vines there have been in the Journal this year; but outdoor Vine planting against walls is much neglected. This may be owing to the popular *Ampelopsis Veitchii* and the many beautiful varieties of *Clematis* for covering walls, and yet I think the Vine is the most beautiful hardy climber in cultivation. I am very much inclined to put in a plea for its more extended culture in the open air, particularly against walls having a south aspect.

Enclosed I am sending two varieties of Grapes for identification grown on open wall; they do not quite ripen so far north, but the larger berried variety is a splendid cropper and a distinct flavour, and fairly good when nearly ripe. I am anxious to know its name.

The white variety is also very prolific, and gets nearly ripe, but berries are always small and flavour moderate. It seems different from the Sweetwater, which I also grow.

The Black Cluster growing by the side of the others ripens, and I enclose two or three bunches for you to taste. You will see by the photos one showing the Vines in their summer dress, the other, now all the foliage has fallen, showing the fruit which I am now gathering, the third week in November. They were very late in blooming this year—namely, July, and, although a fine summer, too late to ripen. Can you suggest a use for the unripe fruit through the Journal, of which I am a rather old subscriber, having commenced just forty years ago.—W. B., *Lincoln*.

[The photographs are very good. Vines kept in order, as shown in their summer dress, are handsome wall-covering plants; while, as the autumn view makes clear, they are not less interesting when the wall is dappled with bunches of purple fruit. Had the small black Grapes been thinned they would be excellent for dessert. In mixture with the larger but less ripe bunches, better wine might be made than is found in much of the cheap brands imported. The Vine is one of the best of town plants, clothing walls near London with restful greenery, and we have seen them bear a profusion of bunches within two miles of Westminster Abbey. The fruit would have ripened well if less crowded with a tangled mass of growth.]

The best white Grape, as far as we know, for ripening against south walls, if not the best of all Grapes for such position, is the Chasselas Vibert; the next best white is perhaps Royal Muscadine. This, under one or other of its many names, is much grown around Paris. Some years ago a first-class certificate was awarded by the Royal Horticultural Society for properly thinned bunches and fine well ripened berries grown by Mr. Thomas Record against a south wall in Kent. Early Saumur Frontignan is also very good. Some of the earliest black Grapes for walls are Black Cluster, Black July, Miller's Burgundy, and Espiran.

There is an interesting article on "Vines in the Open Air" in the November issue of the Journal of the Royal Horticultural Society, by Mr. H. M. Todd, F.R.H.S., but we do not advise our readers to do what the author did—grow the Trebbiano for sixteen, and the Syrian for thirteen years, and then find them failures. They are among the worst to be chosen, and Mr. Todd intends to "clear them out" in favour of Moore's Early (which we do not know) and Chasselas Rose (Chasselas de Falloux), which is by no means equal to the true Chasselas Vibert. He will perhaps grow this and others in his garden near London.

We suspect there are many sunny slopes in Surrey at least as favourable for open air Grape culture as the sites in South Wales from which Mr. Pettigrew is expecting a fine vintage this year. Grown against south walls, early varieties of Grapes will, when intelligently managed, ripen during most seasons in the south of England and sufficiently so for wine making over a great extent of the country. If the growers, like "A. D." are not winely inclined, they can, like Mr. Todd, put the Grapes "under piecrust as if they were Gooseberries."



CYPRIPEDIUM MILO WESTONBIRT VARIETY.

At the meeting of the Royal Horticultural Society, held on the 21st inst., Mr. Arthur Chapman, gardener to Captain Holford, Westonbirt, Tetbury, Glouc., exhibited a very attractive collection of *Cypripediums*, for which a silver Flora medal was accorded. In the report of that show, on page 448, the names are given, and further reference is called now only to introduce the illustration (fig. 83) of the Westonbirt variety of *C. Milo*, to which the Orchid Committee attached the award of merit card. As the woodcut clearly shows, the flower is a strikingly handsome one, of perfect form and bold markings. The pouch and petals are deep claret, overlying and almost obscuring in the latter case, pale green, and these have a thread-like margin of light green; the whole shines as though varnished. The magnificent dorsal sepal is green at the base, but the ground colour is almost obscured by the deep purple brown spots, which on the lower portion have run together in the form of lines. There is a broad margin of pure white.

WINTERING ORCHIDS.

At all seasons of the year cultivators of this beautiful family of plants must be on the alert, and at this period, when dull, cold, wet weather is prevalent, it is obvious that an increased amount of attention is necessary. The whole secret, if there is one in Orchid culture, is summed up in the word attention, which embodies cleanliness, composts, temperatures, and watering. In respect of the first-named it may be said that both the houses and their occupants must be kept as clean as possible. In speaking of composts or soils, I may say that I do not recommend the removal of any plants during the depth of winter. Should, however, the compost in which any plant is growing be at all sour, do not apply one drop of water more than is necessary till the plant begins to show signs of fresh root action; then it can receive new compost, even at this time of year.

Temperatures, I am of the opinion, must be most carefully studied in all cases, although I do not consider it is essential to keep the various houses rivetted, so to speak, to any certain degree. I know, however, that much harm is done by sudden rises and falls to extreme points, and to this is often traceable malformed flowers and sheaths which refuse to push their flowers at the proper season. It should rather be the aim to keep the thermometer as near a certain degree as possible, according to the outside condition, and in very severe weather let it run down a little, rather than use a great amount of fire heat. On the other hand, on all occasions when the weather is favourable, admit fresh air, as even in the smallest quantities it is beneficial.

Watering, although the last to be noted, is not the least in importance. I once heard it said the application and the withholding of water is the whole secret of plant culture, and to a certain extent no doubt it is true, and it certainly applies forcibly to Orchids. In the first place it is a necessity to give some plants water, and in others to withhold it. This must always be remembered—give no plant one drop more than it requires, and allow no plant to suffer for the want of it; but if any mistake is made, err on the side of dryness.

Atmospheric moisture in most of the houses will be required, and

must be afforded with caution. Should the house feel at all stuffy or close, damp down; if at all cold or damp, refrain from doing so. These few notes, to the majority of cultivators, may seem superfluous, but I am inclined to think that many of us have yet something to learn, even in the winter treatment of Orchids. Certain it is that only by attention to the smallest details we may hope to succeed.

NOTES ON CYPRIPEDIUM INSIGNE.

This fine species has been an inmate of our greenhouses for nearly a century, and is still as popular as any plant grown. It is represented in almost every garden in the land where there is a greenhouse, and it is frequently the only Orchid cultivated. In my opinion this Orchid has every good quality that a flowering plant can possess; it is not particular as to compost or temperature, but it seems to grow and thrive almost anywhere, although, like everything else, it well repays being properly cared for. When seen in this condition even the typical flower is charming, and after having done duty on the plant in the house in which it was grown it can be cut, and will last in water for a considerable time when flowers are scarce.

It is not so much of the type that I now wish to speak, but of the two peerless varieties, *C. i. Sanderæ* and *C. i. Sanderianum*, which will, I suppose, one day, become as common as those two, much sought

after in my younger days—*C. i. Maulei* and *C. i. Chantini*. It is needless for me to state that both *Sanderæ* and *Sanderianum* are yellow varieties of the type, and they are much in request at the present time. The differences in the two varieties are in form and colour. *Sanderæ* is a beautiful delicate primrose yellow flower, the dorsal sepal having a broad apical margin of pure white and a few brown dots; these are found to vary according to the conditions under which the plant has been grown, likewise the depth of colour in the whole flower. *Sanderianum* is perhaps not so fine as the preceding in shape or the size of the flower, and is best described as a pure yellow and white flower without any spotting. *C. i. Harefield Hall var.* and *C. i. giganteum* are the giants, so to speak, of the whole family, being glorified editions of *C. i. Chantini*.

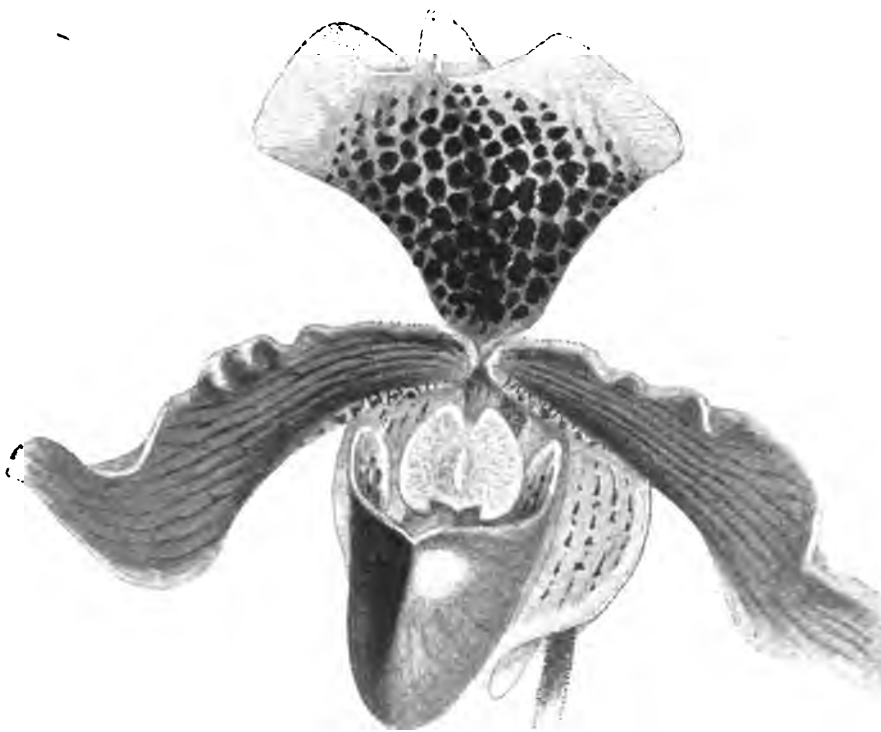


FIG. 83.—CYPRIPEDIUM MILO WESTONBIRT VAR.

They are much larger, and the spots on the dorsal sepal are bolder and clearer.

As I have already said, they well repay being properly cared for, and as I am not aware of anyone having too large a stock of either of these varieties to experiment with, I would recommend that they be grown in the warm intermediate house in a compost of two parts best fibrous peat, one of sphagnum moss, and about half a part of turfy loam, from which all the fine has been taken. When the plants become fairly established, and are of presentable size, they may be grown in a cooler temperature; but still I think more is lost in the growth of the plant than is repaid by the extra tone of colour, which is undoubtedly imparted under such conditions.—J. BARKER, *Hessle*.

DENDROBIUM NOBILE.

At the last fortnightly meeting of the Kingston Gardeners' Mutual Improvement Society, Mr. Hine, gardener to Sir Richard Tangye, read a practical paper on "*Dendrobium nobile*." His advice to those about to start the cultivation of this useful and fragrant Orchid was to obtain plants from the nurseryman in the spring; these usually have flowered once and will be about to start into growth. Do not repot or top-dress them, for, as a rule, they will be potted in sufficiently good material to serve them for twelve months.

The plants may be grown in a warm greenhouse or vinery, but the stove is their favourite home. Keep the plants on the dry side,

light syringings being sufficient until the growths are at least 3 inches long, then water and syringe more copiously. Lightly shade the plants during the hottest hours of the day, but it is better to allow more light than is too often afforded, as plants grown in dense shade will become thin and drawn, and cannot produce flowers so profusely as short, thick, and well-ripened pseudo-bulbs grown in more light. Use soft water in preference to hard, as the latter quickly kills the sphagnum moss, and dead moss appears to be harmful to the plants.

When growth is finished ripen the plants in a cooler house, such as the warm corner of a greenhouse or a vinery shelf not too close to the ventilators, for too much draught will cause the plants to become shrivelled. Allow only sufficient water to keep the pseudo-bulbs plump: 45° to 50° at night will be warm enough during the resting period, but in severe weather a few degrees less will not be dangerous.

It is better to flower the two-year-old growths, as they produce more bloom than do those of the preceding summer. The plants will last in bloom from four to six weeks if kept dry and in a rather low temperature, but do not allow the flowers to wither on the plant, or the next year's growth may be inferior. After flowering, top-dress or repot as required, using a mixture of peat, moss, and charcoal, and keep the base of the pseudo-bulbs well above the compost. Repot every three or four years, using pots two sizes larger than the last, then no roots will be damaged.

Imported plants should be laid on a moist spar or cinder-covered stage, and be lightly syringed until growth appears, when they may be placed in small pots, using little or nothing beside broken crocks for the roots to ramble in for the first year.—J. T. BLENCOWE.

NOTES ON ALPINE FLOWERS.

CAMPANULA PORTENSCHLAGIANA.

PORTENSCHLAG'S Bellflower is one of our most dependable flowers for the rock garden, by reason of its free-flowering habit and the ease with which it can be grown. It comes, it is said, from Dalmatia, and is perfectly hardy in all parts of Great Britain and Ireland. It is a capital plant for trailing over the surface of a large stone, but may be found useful on the level as well. This *Campanula* soon forms a good sized plant on most soils, although it prefers that which is rather light and of a somewhat peaty nature. In such it grows rapidly, and forms a mass of pretty green foliage, covered for a long time in summer with pleasing light blue flowers. It is easily increased by division.

There has been for a little time in cultivation a larger flowering variety, which has passed under the names of *C. mollis* and *C. Portenschlagiana* "Bavarian variety." The first is incorrect, but the second is no better, as the plant does not come from Bavaria at all. The only ground for calling it the "Bavarian variety" seems to be that it was introduced by a Bavarian nurseryman. This variety is larger in all its parts than the ordinary form, and is preferred by many on this account. No one will, however, regret growing either of the forms of *Campanula Portenschlagiana*. It may be mentioned that while either of the forms grow quite well in partial shade, they also thrive in sun. They ought never to suffer from want of water.

ARABIS CŒRULEA.

In my early days of growing Alpines I lighted upon the name of *Arabis cœrulea* in a seedsman's catalogue, and enticed by the prospect of possessing a sky-blue *Arabis*, forthwith procured a packet of seeds, which were duly sown, with the result that a fair number of plants were in due course raised and planted out. They came into bloom, but the colour was so disappointing that the plants soon found a last resting-place on the rubbish heap. The tint of blue shown by the flowers is a poor one, and makes one wonder at the daring of the botanist responsible for the specific name of the *Arabis cœrulea* is a native of Europe, and is hardy in most rock gardens where the soil is fairly good. It may be increased by means of seeds sown in spring, or by cuttings. The principal object one has in view in speaking of this plant is to advise alpine growers not to trouble with so poor a plant.

SAXIFRAGA BOYDI.

This very beautiful little Rockfoil is a witness in favour of the optimism held by enthusiasts as to the great variety we may yet have among hardy plants—an optimism which, the writer is disposed to think, is justified by all that we know of the source of so many good flowers. The belief is that this Saxifrage is a hybrid between *Saxifraga Burseriana* and *S. aretioides*, but this is only a probability, as the original plant was not the product of artificial hybridisation. It originated in the garden of Mr. James Boyd of Cherrytrees, near Melrose, Scotland. It is a charming little plant, of dense stiff habit, and only growing a few inches in height. Pretty as is the rounded mound of tiny rosettes it forms, its beauties of foliage are surpassed by the lovely little bright yellow flowers which rise above the plants. *Saxifraga Boydi* is not easily or quickly increased by division or cutting, and it is not procurable as cheaply as many other Alpines. There is also a white variety, but it is larger in growth.

SILENE SCHAFTA.

We are usually rather short of bloom in the rock garden after mid-summer, and have thus the more reason to look out for, and prize any flowers which will come in after that time to give the colour we want. Thus one thinks highly of the Caucasian *Silene Schafta*, whose pink flowers are produced freely enough in either sun or half shade. It forms a neat, slightly trailing plant, with flowers resembling the other *Catchflies* in their inflated capsules. One finds it grow well in a sandy soil and in a place where absolute drought cannot fall to its lot. This *Silene* is very easily grown from seeds, which may be sown in spring in a nursery bed, a cold frame, or in pots or boxes. When the seedlings appear give them the ordinary treatment afforded to those of hardy flowers.

THYMUS SERPYLLUM LANUGINOSUS.

The plant which possesses this formidable name is by no means obtrusive in appearance. It is, in truth, only a variety of the common wild Thyme, which so adorns some of our hill and mountain sides. It is, however, covered with a silk-like or woolly tomentum, which gives it a distinct effect. It does not flower so freely in the writer's garden as the ordinary form or its white and so-called-crimson varieties. Its chief value is as a carpeter for taller plants or bulbs, or for covering a dry bank or a large stone. It enjoys a light, peaty soil, and grows rapidly when it has once got a start.

NARCISSUS MINIMUS.

It is not yet too late to plant Daffodils, although I prefer to have them in the ground considerably before this. I think, however, that there are many who have rock gardens who would enjoy growing this quaint looking little Daffodil on their rockeries. It is, it may be, superfluous to give any description of it to some who know it, yet there are many lovers of flowers to whom it is an entire stranger. For the latter it may be said that *Narcissus minimus* is a tiny—a very tiny—Trumpet Daffodil, completely formed, and delightful in its symmetry. It is also one of the earliest to come into bloom. It pleases the admirer of Alpines with its bright yellow trumpet flowers, so worthy to be the companions of the gems which gladden us in the early year.

YUCCA FILAMENTOSA.

This may appear foreign to these notes, and incongruous when spoken of directly after the miniature flower which forms the subject of the preceding passages. It must be remembered, however, that all rock gardens are not small, and that many are made less beautiful than they might be because of the absence of plants of bold and effective character. The *Yuccas* can be used with great advantage on bold rockwork, where they produce a fine effect with their long, pleasing leaves, even when out of bloom. When in flower their spikes of white blooms are always admired. Of the *Yuccas* in cultivation none surpass *Y. filamentosa* for hardiness and ease of cultivation. It rarely fails to bloom when established either in the rockery or border. The name of *filamentosa* is applied on account of the filaments with which the margins of the leaves are fringed. This species is not particular as to soil.—ALPINUS.

ELÆAGNUS MACROPHYLLA.

THE past hot dry summer, while injurious to some plants, has brought out the better qualities of others, more especially those from the far East, which delight in plenty of bright sunny weather. The subject of this note, a native of China and Japan, is one of the best of the evergreen *Elæagnus*, and has flowered very freely this year.

The flowers, which open in November, are white, and not very conspicuous; and are produced usually in pairs on short stalks in the axils of the leaves. They are shortly tubular, with four small triangular petals, and have a sweet scent, not unlike that of some of the *Narcissi*.

The leaves are alternate, nearly oval in shape, about 3 inches long by 2 inches broad, borne on petioles an inch in length; the margins are entire, but the outer parts of the leaf are undulated, and curl upwards slightly from the midrib. They are of a deep shining green, and covered with very minute punctures on the upper surface, and of a shining silver grey beneath, the two surfaces forming a pleasing contrast when the leaves are blown about by the wind. The young wood, the petioles of the leaves, and the outside of the flowers are all covered with the minute brownish scales, resembling small dots, so common to this genus.

The plant forms a low rounded shrub, about 5 or 6 feet high, and as much or more in diameter, with the lower branches keeping in good condition to the ground. A rather poor light soil suits it best, causing it to grow more slowly, and enabling it to ripen its wood better. Like most of its allies, it requires very little or no feeding, but should be liberally supplied with water during dry weather. It is propagated by seeds, cuttings, or grafts; but grafted plants, although more quickly obtained, are as a rule not so satisfactory as those raised by other methods.—C.



NATIONAL ROSE SOCIETY.—OFFICIAL CATALOGUE.

THE fourth edition of the official catalogue of the National Rose Society is probably the best of the series. To exhibitors of Roses it must prove invaluable, as will it to all growers of the queen of flowers who desire to have a concise guide embodying true descriptions of the best varieties in cultivation. There are six plates, representing respectively a Hybrid Perpetual, a Hybrid Tea, a Tea or Noisette, each of these being in exhibition character, with three types of what are popularly termed garden Roses; all are well executed. The lists of varieties include Hybrid Perpetuals, Hybrid Teas, Teas and Noisettes, Bourbon, with the "Garden" or decorative Roses. In every case the lists have been brought right up to date, and the descriptions have been most carefully prepared. In addition to the above, selections of varieties are given for specified purposes, such as twenty-four Hybrid Perpetuals, twelve Hybrid Teas, and twelve Teas and Noisettes for exhibition; twenty-four for pot culture, twenty-four for standards, twenty-four for bedding, twelve for pillars, twelve for arches, and twelve for climbing on walls. The catalogue, which is splendidly printed on highly toned paper, may be procured from the Rev. H. H. D'Ombraïn, V.M.H., Westwell Vicarage, Ashford, Kent; or E. Mawley, Esq., Rosebank, Berkhamstead, for 2s., post free.

PLANTING ROSES.

GROUND, except in very damp, undrained positions, is usually in good condition for planting Roses in December. Very wet weather, or during a hard frost, are unsuitable times on any soil, but when the surface is comparatively dry and not sticky the planting may be carried on. Supposing the plants were obtained early, and for want of opportunity could not be permanently planted for several weeks, they would not take any harm if the roots were carefully laid in the soil. Plants so stored often commenced to form new roots simply because the soil is warm and suitable, and it would be a great advantage to have them in this condition if carefully moved and planted quickly, so as not to expose the young delicate fibres to the drying influences of the air. When laying-in the plants to be left for any length of time the damaged parts of the roots ought to be cut smoothly. This will undoubtedly facilitate the emission of roots whether laid in temporarily or planted permanently.

The soil in which Roses succeed best is loam of a fairly strong character, rich and deep. The depth of any soil will be increased by well working the subsoil which, if poor, will be much improved in the process. A light or sandy soil may be improved for Roses by the addition of loam tending to a clayey character. On the other hand a stiff and retentive soil is not suitable until it is improved by opening materials and amelioration of its texture by frost. The addition of wood ashes, road sweepings, decayed leaf soil and vegetable refuse will all help in the work of improvement and bring it to a good mechanical condition. For a heavy soil thoroughly decayed stable manure is the best enricher, but light soils need stronger manurial additions, hence cow and pig manure will be more suitable, adding also, if possible, some strong loam.

Prepare the soil for Roses by deep digging, trenching two spades deep or 2 feet. Place the manure between the two spits. It may be worth while in cases where a few beds are being prepared, and the soil is poor, to remove it to the depth named, and replace with a compost consisting of loam and one-third manure.

In trenching soil for Roses the bringing up of bad subsoil to the surface must be avoided; for this reason the practice of bastard trenching is to be recommended. The soil ought to be prepared deeply previous to planting, because that is the only time when it can be improved in this way without lifting the Roses and replanting.

Roses for beds and borders are best grown as dwarfs and standards. Dwarfs may be planted 20 inches apart. Standards should be 3 feet asunder. The smaller, or half-standards, may be 2½ feet apart. The holes for planting should not be deep but comparatively wide, so that the roots may be easily accommodated. Some fine compost must be at hand to spread over the roots, but let them be carefully pruned, removing all damaged parts if not done previously. This is a very important preliminary to planting. In inserting the plants, prepare a wide convex mound of soil in the station, and on this place the plant with its roots ramifying all round and spread out to their full extent. If they are sufficiently numerous they may be arranged in layers, and each layer be covered with fine compost sprinkled carefully over from the stem outwards. The latter is a detail not always considered, but

if it is followed it will prevent the smaller fibres being turned upwards or in a wrong direction.

The trouble of pruning the bruised roots and the laying out of the fibres in planting is worth attending to, because of the readier manner in which new roots are formed. Should there be any suckers springing from the stock, which is likely to happen with the standard and half-standard forms, they must be removed, or it is certain that they will be troublesome.

The standards may be placed the same depth as previously, but the dwarfs rather lower. See that the soil is worked well among the roots and the additional soil is made firm, but it is not desirable to stamp or tread it down, causing a strain or tension upon the roots which may tear them away from their origination. It is important that the standards should have stakes in order to prevent their receiving damage by wind. Long shoots may be reduced in length but not shortened closely. A mulching of light manure over the roots is desirable to afford some protection from severe frost.—D. EDWARDS.

FRUIT TREES IN POTS.

(Continued from page 428.)

WHERE pot culture is undertaken it must be the first consideration in the houses devoted or partially devoted to it. We sometimes see a half-span range with trained trees on the roof, and trained trees on the back wall, with pot trees underneath, or, perhaps, a span-roof orchard house with trained trees on the roof on both sides. We cannot expect any success if the pot trees are doomed to such positions as these. Failure may always be looked for, unless the maximum of light is afforded.

If the planting out of trained trees is adopted, they must be confined to the back wall; pot trees may then be expected to succeed to some extent in front of them, near the glass; or, in the case of the span-roofed house the planted out trees might be trained vertically in the centre, and the pot trees be arranged round the sides.

In any case, to make the most of the room at disposal, pot trees alone should be allowed. If trees are put out into permanent positions, room for extension must be allowed to secure the best results, and when the roof is covered the house is of little use for any other purpose. This system must, however, be adopted if the labour at command is inadequate to work the system of pot culture successfully.

There is another particular in which the advantage is notably on the side of the pot trees, at least in the case of Peaches, Nectarines, and Cherries. There is an erroneous impression abroad that they are comparatively short-lived. This is by no means the case; as a matter of fact their longevity is quite remarkable. Nor does their fertility show any marked signs of declension as they increase in age and size.

To become convinced of this one has only to make an inspection of the Sawbridgeworth Nurseries, and observe the wonderful specimens of huge pyramid Peaches and Nectarines in comparatively small pots—quite a unique collection. Still more remarkable are the Sawbridgeworth Cherries in pots. An examination of them will show at once why Cherries sometimes fail in the open ground and against walls, when the growth has been too luxuriant, and severe pruning with subsequent canker has been the result. Grand crops are produced year by year, and very fine individual fruits, as attendants at the meetings of the Royal Horticultural Society know full well. Since we began to grow pot trees at Gunnersbury only one death has taken place, and that was the case of an Apple that had been subjected to forcing. The health of the trees is uniformly good.

Readers will doubtless want a more detailed account of our methods of culture than has hitherto been given concerning such things as when and what to purchase, when to pot and repot and how to do it, what soils are suitable, with particulars as to watering, ventilation, temperatures, pruning, thinning, gathering, and, finally, the out-of-door treatment and selections of the most useful varieties.

The best time to purchase is in the autumn when the wood is well ripened. They may then be sent for long distances, but should be packed securely and carefully. It is desirable to purchase in the autumn, as the trees can then be repotted before frosts set in, particularly if they have to be wintered out of doors. The trees that are selected by the purchaser should have been established and grown in pots for not less than two seasons previously; the only exception that can be made to this statement is in the case of Cherries. When knocked out of the pots the whole of the soil should be seen to be permeated with roots. Young trees should be chosen so that any tendency to luxuriant growth can be better controlled. I prefer trees of pyramidal habit to standards; some of the former will gradually tend to develop the habit of the latter.

Towards the end of September the potting of the trees that are to be forced is commenced. Time is thus afforded for root action to begin again before the trees are excited into growth. The potting of the

other trees is continued, as convenient, until all the work is done by the beginning of November. If the weather is warm the trees are syringed daily after repotting, and if the weather is fine are put outside again immediately and are stood on boards or bricks. All the forced trees remain in this position till the end of October. Those trees that are not forced are placed together in an open position, with stable litter round the pots as a protection from frost. They remain together here until the buds begin to show signs of colour in the spring, when they are removed to a cool house.

I have often been asked whether the trees are repotted every year. The answer is in the affirmative. The only exception has been in the case of a few Cherries, but they, too, will all be repotted annually in the future. Every tree is taken out of the pot, and its ball is reduced to such an extent that it can be replaced in the same pot with fresh soil all round and rammed down firmly.

This annual repotting is, in my opinion, one of the chief essentials to success. If the ball were not reduced in this way and the tree were put into a larger pot the root growth would be too vigorous, and the effect would be seen amongst the foliage. Another good reason for making no exceptions in the matter of the annual repotting is that the soil gets exhausted in the course of the year, so that if this operation is omitted even for one year the tree would be in a poverty-stricken condition in the following year; nor would this lack of fresh soil be compensated by the addition of manures, which would not have the effect they are intended to produce if the soil is not in good condition. The omission of this annual autumn potting must in many cases have been a cause of failure.

It is also a mistake to suppose that any failure on the part of trees to fruit as they should have done can be corrected by omitting the repotting. Emphasis must be laid upon the fact that the potting must be done firmly, otherwise the soil will be partly carried away by the frequent watering, which must be given in any case. Firm potting will also produce suitable root action fine and fibrous.

When one looks at the tree and the pot, the inequality between the size of the one and the other seems to be very great; this apparent want of proportion is set right by the yearly addition of soil in connection with repotting. Strong, well-made pots must be used, as the risk of breakage is considerable during the frequent movements that occur in one season. Most of our trees are in 10 and 11-inch pots, others are in 12 and 13-inch pots, but none in larger ones. When the repotting is done, either a larger or a smaller pot is given if it seems desirable.

A good fibrous loam should be secured. I use a mixture of three parts of the well-known Banstead loam, with two parts of a local loam that is tough and breaks up well, the two together forming a very suitable compost. To these is added some well-decomposed manure in the ratio of one part of the latter to twelve of the former, and then nearly as much lime rubble finely broken up.

After potting, enough water is given to thoroughly penetrate all the soil, and after this little is needed until the growth recommences. But care must be exercised, as water cannot be freely given until the leaf growth has become vigorous. When the fruit begins to soften water must be given with more care and less freedom until the fruit has been gathered. When the wood is beginning to ripen the watering must be gradually decreased.—J. HUDSON, *Gunnersbury House, Acton.*

(To be concluded.)

THE FAIRY APPLE AS AN ORNAMENTAL TREE.

It seems somewhat strange that this highly ornamental Apple should not have received more recognition. According to its size and appearance it is generally included in nurserymen's lists as an ornamental Crab; and so far it ranks with the best of the several varieties extant, with the advantage of being classed as a dessert Apple, and its pretty yellow and red fruit I have ere now utilised with charming effect as a garnish to other fruits. The flesh is of a rich yellow hue, crisp and juicy, with a fine delicate aroma when eaten with the skin on. It is in perfection from December till April, and is excellent, especially for decorative purposes, at Christmastide. The fruit is produced in clusters of from three to five, similar to clusters of Cherries. The ripe fruits make a delicious preserve served whole, also an excellent jelly, similar to that of the Siberian Crab and its congeners, such as the beautiful Dartmouth, John Downie, Transcendant, and other varieties.

The Fairy Apple was raised about half a century ago by Mr. John Jennings in his nursery at Shipston-on-Stour, South Worcestershire, from seed of the Scarlet Siberian Crab, or Cherry Apple. The seed was sown for the production of stocks for grafting Apples, and one of the seedlings exhibiting signs of fruiting, he grafted it upon a free Apple stock. I was one of the first purchasers of the resulting stock, and was also, I believe, the first to exhibit a dish of the fruit at the

Royal Horticultural Society's Fruit Show at the Crystal Palace, where it was much admired.

Our complement of ornamental berry, or fruit-bearing trees and shrubs, is somewhat limited, and none are more worthy of extended recognition for the decoration of shrubberies and pleasure grounds than the ornamental Crabs were for their flower, leafage and fruit, while the Fairy Apple (or Crab) especially combines the *utile et dulce* in an eminent degree. There is a wide field open to our hybridisers for a further production of these Fairy Apples.—W. GARDINER.

A PLEA FOR GROS COLMAN GRAPE.

We often hear this handsome Grape spoken about in disparaging terms, and doubtless in many cases there are sound reasons for so doing; but we venture to say the fault does not so much lie with the Grape as with the cultivator. No matter what fruit you take, if you do not give it that treatment which is calculated to develop to the fullest extent its particular characteristics the result is inferior quality. This is exactly what many persons are doing with this fine winter Grape: it is probably planted in a house where the Vines are allowed to break almost without any fire heat, a house in which (other details being right) Black Hamburgs do capitally and produce fruit of first-rate quality, while the Colmans are insipid and scarcely fit to eat.

Now, these two excellent Grapes need very different treatment to bring them to that state of perfection in which their individual good qualities are fully developed. Black Hamburg is essentially a summer or autumn Grape, which can be brought to maturity in a comparatively brief period, just as circumstances require, and this without any perceptible injury to its quality. But not so with Gros Colman, which resents being hurried, but requires a long season to thoroughly mature its large handsome berries. While Black Hamburgs can be ripened in six months, or even less if need be, Gros Colman requires from seven to eight months to ripen, and even then it has not attained to its proper flavour, but should be allowed to hang on the Vine for two or three months to mellow before the bunches are used. What we mean is this, supposing a house of Colmans is started on the 1st of March the Grapes should be ripe by the end of September, but ripe in this case does not mean in a fit condition for use; that condition is not reached till about Christmas, by which time the fruit has had time to thoroughly mature, and in this state is by no means to be despised.

We do not intend to enter into any minute details regarding the culture of this excellent Grape, but merely to touch on one point where we consider many gardeners err. In its early stages Gros Colman delights in a warm temperature, such as is given to Muscats. This should be afforded up to that period at which the Grapes begin to show signs to colour, and at this stage we would change the usual treatment followed. Instead of keeping up the high temperatures during the ripening process, a practice which many adopt, we would gradually lower it, so as to allow the fruit plenty of time to absorb and thoroughly assimilate the juices supplied by the Vine. During the latter half of August and the whole of September we would not hesitate in dispensing altogether with fire heat and admitting a free supply of air. Even though the night temperature fall to 45° or a few degrees lower it will do no harm, but, on the contrary, prove beneficial.

Look into our orchards and take a lesson from Nature. When do the Apples assume the beautiful colours to their fullest extent? Is it not when the nights become chilly and the mornings have a sniff of frost about them? Give this rational and natural treatment to this much-maligned Grape and the reward will be fruit of much higher quality as well as better in appearance.

Another thing in regard to this handsome Grape which should be guarded against is overcropping. No matter how careful the cultivator may be in carrying out details in culture, if too heavy a crop is left on the Vines the results will be disappointing. This is the rock on which many come to disaster; they give the Vines a task to perform which they are entirely unfitted for, and consequently the results are disappointing and unsatisfactory—disappointing to the grower, and unsatisfactory to the eater—and it thus happens that both employer and employed are unanimous in condemning this particular Grape.

I maintain that if Vines were treated to a much cooler temperature during the period when the fruit is ripening, the bunches left hanging on the Vine at least two months after they are ripe to mellow, and only a moderate number of bunches allowed to each Vine, a change regarding the quality of this noble Grape would take place. We know we may have stepped aside from the beaten track, and are liable to be sharply reprimanded for so doing, but our desire is merely to see justice done to that grand Grape which occupies such a prominent place amongst dessert fruits during the Christmas and New Year festivities.—ALBYN.

PREPARING SOIL FOR VEGETABLES.

PEAS.

PEAS, as a rule, demand good soil in the best condition, especially when the period of flowering begins. Good crops cannot be grown unless special attention is given to the preparation of the ground. This may well be done in autumn for various reasons. The work may be carried on at convenient times, and as the pressure of spring is absent it is more likely to be done better than when every other crop requires attention.

Autumn preparation in the case of strong soils is essential in order that the ground may receive the benefit of the ameliorating influence of frost and wind, which will break down the particles and make the surface work easily when sowing the seed. Deep, well-worked soil holds food and moisture throughout the whole period of the growth of Peas, and there is an ample supply when the demand of the plant is the greatest. In dry weather copious supplies of water may be necessary alike to supplement the food and moisture and render the fertility in the soil available. In poor and shallow soil watering may be more needed, but it is less helpful. In a deep rich soil watering is less needed and may often be dispensed with, but when it is supplied it is bound to be helpful, if given when the crop is maturing.

The method of preparation I would recommend for Peas is to cultivate the soil not less than two spits deep. The bottom spit is always benefited by being moved and broken up even if it has previously undergone the same operation in previous years. A width of ground about 3 feet and any length will provide a splendid rooting medium for all the robust-growing varieties. Preparing the soil to that width is better than cutting a narrow trench, placing in manure, and filling it up again. The surrounding ground is poor and hard, and the roots, instead of ramifying into it, are confined in the trench, and soon extract from the manure and soil all the available moisture.

The ground, therefore, should be trenched or bastard-trenched to the width named for one row, the roots will appreciate it and the crop will be better. In the majority of cases, when deepening the soil, it is the safest plan to dispose the layers as previously, adding to the bottom spit a dressing of manure or vegetable refuse, and on the surface of the spit a good layer of well-decayed manure which the roots will find just at the time they need additional assistance. The upper layer of soil may be dressed with lime scraps and wood ashes, Peas liking calcareous matter and potash.

Soil heavily manured for Celery makes excellent ground for Peas without any additions, but it should be well broken up so that all the soil is knocked about. Trenching is the best plan of preparing this. The early crop of dwarf Peas must have a warm sheltered border, well prepared by trenching over the whole plot and working in some decayed manure. A light and sandy soil is the best for these. Decayed vegetable matter will be of great service, or wood ashes mixed with the soil. Sweet Peas, which are cultivated for their flowers, like similarly rich and generous treatment as do the culinary Peas.—E. BARROW.

ROYAL HORTICULTURAL SOCIETY.

FRUIT COMMITTEE AWARDS.

YOUR report of the recent meeting of the R.H.S. Fruit Committee is in error in mentioning Apple Cissy as obtaining an award of merit. No doubt the Apple is a very handsome one, but some members thought it had a clammy or musty taste, which I did not detect, but, if so, may have been due to some packing material. In any case, by a small majority, the proposed award of merit was negatived. Bassaleg Pippin is undoubtedly a very pleasant eating Apple. Possibly Mr. Busham will give Cissy, a rather popular Apple in Monmouthshire, another chance.

But it is not a matter for wonder if errors are made, because so many people seem to regard it as their business to investigate the fruits put before the Committee, and some, not content with tasting, bodily remove them. Then award cards get displaced, and altogether, so far as the reporters are concerned, chaos follows.

I observe in your contemporary, the "Gardeners' Chronicle," a strong complaint is made that when reporters visit the particular dishes set before the Committee the fruits have disappeared, and nothing is left on which they can frame descriptions. Possibly it may be well to have a wire-covered case constructed, into which every such dish, when returned from the table, may be placed for protection. One corner of the hall in which these dishes are usually placed for the convenience of the Committee does indeed afford cover for "absent minded beggars," who unthinkingly lift the fruits. Still it is interesting thus to learn how many fruit lovers there are about.—A. D.

[Without questioning the accuracy of our correspondent, we have to state that the error, if any, is not ours. We printed from the official report supplied by the R.H.S., which clearly states that the variety Cissy was granted an award of merit. We are constrained also to say as regards Press representatives that the R.H.S. does not do so much to aid reporters as the Press does for the R.H.S. Not only are fruits often

missing (which is occasionally unavoidable), but plants are removed too; while cards cannot always be found on exhibits that have been honoured with awards.]

SCIENTIFIC COMMITTEE, NOVEMBER 21ST.—Present: Dr. M. T. Masters (in the chair); Mr. Michael, Rev. W. Wilks, Mr. A. Sutton, Mr. E. F. im Thurn, Rev. G. Henslow, Hon. Sec.

Hippeastrum, speciosum.—With regard to the specimen exhibited by Mr. Wilks at the last meeting, supposed to be a reversion from the florists' "Amaryllis," which was derived by hybridisations on species of *Hippeastrum*, it appears to be very close to *H. stylosum*, "Bot. Mag." 2378, introduced in 1822. It differs, however, in having white streaks instead of green on the perianth, and the stamens and style are shorter. The leaves also are narrower. Mr. Wilks observed that he has had it eighteen years, and that it is remarkable for its very vigorous growth, being also very nearly hardy. Mr. im Thurn remarked that it is very abundant in British Guiana, and is so close to *H. equestre* that it would seem to be a form of that species.

Lilium giganteum, capsule.—Mr. Wilks brought a ripe capsule of this species, and alluded to the readiness with which it ripens abundance of seed in various localities in this country, giving opportunities for producing varieties.

Canker on Apple Trees.—Dr. W. G. Smith sent the following report on specimens received in October and forwarded to him for examination:—

"A specimen of this canker was received recently with a request for some information on the cause of this common trouble. The case sent I consider a typical form of canker caused by the ascomycete fungus, *Nectria ditissima*. The action of this fungus in causing canker was first described by Robert Hartig (Untersuchungen aus d. forst-botan. Institut, (Munich) I. p. 209, 1880). Good descriptions are given in the English translations of Hartig's and Tuben's text books, in G. Massee's recent text book, in H. Marshall Ward's "Timber Diseases," and by Plowright ("Gard. Chron.," April 19th, 1884). It is unnecessary to repeat here the details given in these works. The reasons for considering *nectria* as the chief agent in the present case are:—(1) Near the centre of each of the three canker areas sent is the dead stump of a side twig, which by being pruned or broken would give the entrance to *nectria*—a wound fungus; from this point the canker has spread, up, down, and round the still living main branch. (2) The presence of two forms of spores of *nectria*. In one branch the external canker has passed over into a form of wood-rot, which is passing along the inside of the branch.

"This is one form of Apple tree canker, but is not the only form. The condition which disposes a tree to canker is a wound deep enough to penetrate the softer tissues of the bark. This may be caused by the pruning of twigs, or by their being broken or gnawed; it might also be due to a deep crack in the bark, such as one sometimes seen on trees as the result of excessive growth or internal pressure; or it might be a crack in the bark caused by sun or frost, or the killing back of immature twigs in winter. (The latter case Hartig distinguishes as a frost-canker, capable of extending each successive winter without the agency of fungi.) Given, then, an open wound, the soft tissues exposed offer a suitable substratum for the growth of fungi, bacteria, or animal organisms. The tissues of the Apple tree seem well suited for the growth of *nectria*, and, when one considers the common occurrence of the fungus as a saprophyte on dead wood or as a parasite on many trees, it is not surprising that it is the fungus which generally establishes itself. Hartig and others have proved that, having obtained a footing on the wound, *nectria* is able to attack the living tissues, and gradually to bring about a canker. In the same way any other organism with a partiality for the tissues of the Apple tree may, individually or in company, be the agents in converting a wound into a canker; for instance, at least three species of *Polyporus* and a *Hydnum* amongst the *Hymenomycete* fungi, and, probably some bacteria.

"*Prevention*.—No form of spray or wash is likely to give permanent results. Trees badly cankered should be removed and burnt as soon as possible. Where practicable, the canker may be cut out, care being taken to cut well into the healthy parts around; the wound thus produced should be carefully painted over with tar. This must be done in autumn or winter, otherwise the tar will not sink in. Wounds made in pruning, lopping, or otherwise, should be tarred. If the orchard is liable to canker it is safest to tar even small pruning cuts."

Apple stocks with caterpillars.—Mr. Ballard of Colwall sent some tops of a Lord Snuffield stock perforated. They had been attacked by the caterpillar of the "wood-leopard" (*Zeuzera Aesculi*), some being still within it. A woodpecker had subsequently further injured the shoots by trying to extract the grubs. The best remedy is to insert a stiff wire and so destroy them.

Nests of the Rose-leaf-cutter bee.—Mrs. Biggs of Leyton contributed a large section of a decayed Poplar perforated all over by the borings of a caterpillar. These were now occupied by the nests of this species of bee, *Megachile centuncularis*.

Fog deposit on glass.—Mr. Hudson sent a sheet of glass from a conservatory to show the large amount of deposit upon it after the late destructive fog described at the last meeting.

The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, December 5th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Prof. G. Henslow, M.A., at 3 o'clock.



RECENT WEATHER IN LONDON.—The fine open weather still continues, and is hailed with general satisfaction, as the work of planting trees and shrubs can be expeditiously proceeded with. On Monday and Tuesday it was quite mild, and there were gleams of sunshine at intervals during both days. Wednesday morning opened foggy and cold.

GARDENING APPOINTMENTS.—Mr. James Mills, for the last five years head gardener to Lord Belhaven and Stenton, Wishaw House, Wishaw, N.B., has been appointed head gardener to Captain Heywood Lonsdale, Shavington Hall, Market Drayton, Shropshire. He is succeeded at Wishaw House by his brother, Mr. William Mills, who has been three years foreman at Pollock House, Pollockshaws, N.B. Mr. McIntyre, son of Mr. John McIntyre, Woodside, Darlington, has been appointed head gardener to Shandon Pole Gell, Esq., Hopton Hall, Wirksworth, Derbyshire.

SWEET PEAS IN NOVEMBER.—In the Journal of the 16th inst. you mentioned some Sweet Peas sent by Mr. Ed. Molyneux. Well, if Sweet Peas grown in November in Hampshire are wonderful, what do you think of the accompanying flowers cut on November 21st grown in Yorkshire and within a mile of the east coast? Ten days ago I saw a profusion of beautiful Dahlias in a garden here within half a mile of the sea, and no doubt they are still flowering, as no weather has occurred since then to damage them materially.—R. FALCONER JAMESON, *Hornsea, near Hull.* [The finest bunch of Sweet Peas, consisting of excellent flowers of superior varieties, we have seen in November. We are inclined to think they would take the conceit out of Mr. Molyneux.]

READING GARDENERS' ASSOCIATION.—At the fortnightly meeting on Monday Mr. W. Tribbick, of The Gardens, Brook House, Isle of Wight, read an exceedingly practical paper on "The Cultivation of Muscat Grapes." He dealt very fully with the subject, and gave useful hints on forming borders, planting, temperature, and ventilation at various stages of growth, cleaning the Vines, setting, manures, watering, diseases and their preventives, insects, and fumigating. Many questions were asked, and an interesting discussion took place. A feature of the meeting was a splendid exhibit of well flowered Begonia Gloire de Lorraine shown by Mr. F. Laver, The Gardens, Hillside. Mr. Bishop, Orwell House Gardens, Craven Road, showed a few plants of Primula obconica, remarkable for the variegation of the foliage.

PANAX VICTORIAE.—One is so accustomed to see at provincial flower shows, in the class of "dinner-table plants," the ever-recurring Crotons, Dracaenas, Palms, Aralias, and Ferns that it was a pleasing relief to find at the Sutton Coldfield Show examples—exhibited by Mr. A. Jenkins, gardener to A. W. Willis, Esq., Claregate—of this comparatively little grown species of Araliad or Ivywort. The green and white leaves are arranged in an umbellate form on the slender branches, and the largest of the leaves on the specimens in question were about the size of a florin, hence not too large for an elegant and light effect. The plant also stands for a considerable length of time without injury for room decoration. It is easily propagated from cuttings. A compost of two parts fibrous loam, a little leaf mould or peat and silver sand, with an occasional watering of liquid manure, suits the plant admirably.—W. G.

BIRMINGHAM GARDENERS' ASSOCIATION.—On the 27th inst. at the usual fortnightly meeting, Mr. W. B. Latham in the chair, a discussion on the late Chrysanthemum show was opened by Mr. W. Spinks, and in which he reviewed, in an interesting and graphic manner, the principal features of the show. In the ensuing discussion suggestions were advanced by one or two speakers for the consideration of the Committee of the Chrysanthemum Society when formulating their next schedule. [The suggestors, however, were advised to lay their views before their own Committee. Prizes were offered for single blooms of three varieties of Japanese Chrysanthemums on long stems, arranged in a vase. The first prize was accorded to Mr. H. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston, with very good examples of Mutual Friend, Mrs. C. H. Payne, and G. J. Warren. The second fell to Mr. Phoenix, and the third to Mr. Dedcott. Mr. C. H. Herbert brought fine examples in a cut state of Chinese Primulas. The librarian contributed a small collection of Apples.

— **MR. OWEN THOMAS V.M.H.**—All the friends of her Majesty's accomplished gardener will be pleased to know that Mr. Thomas, among a few other heads of departments at Windsor, was the recipient, on Saturday last, of a gold and blue enamelled Maltese cross from his Imperial Majesty the Emperor of Germany. The cross represents the German Order of Coronation, 1861 (4th class), and is considered a high honour in Germany. We congratulate Mr. Thomas on the distinction conferred.

— **ROYAL BOTANIC SOCIETY.**—Lecturing to the Royal Botanic Society on Saturday on bulb growing in England, Dr. St. George Mivart said Dutchmen had made bulb growing a success largely by their perseverance, and as Englishmen possessed that quality in no inferior degree, there was no reason why, given a fairly good soil, bulb growing should not be equally a success in this country, and equally a source of profit. The lecturer's expert advice to would-be bulb growers was—Never use fresh manure; cut the flowers in bud; root out any weakly plants.

— **APPLE LEMON PIPPIN.**—I know of few, if any, Apples so frequently misnamed as this, and I was greatly disappointed when some young trees fruited for the first time and turned out to be quite a different Apple. The true type keeps well into March, has a yellow skin, and a distinct swelling at the base of the stalk. A poor form of King of the Pippins is often sent for it, and intending planters ought to be sure before purchasing that their nurseryman holds the true stock. Gathered late and kept in boxes or barrels in a cool cellar or outbuilding, it is at its best in January and February.—S.

— **EARLY FLOWERING SHRUBS.**—I observe that our friend "H. D." has promised to refer to flowering shrubs presently, a very interesting subject. But whilst we have an abundance of these, not a few flowering after midsummer, when ordinary garden flowers are so plentiful, I do think that by far the most useful and desirable shrubs are those hardy ones that bloom early. Now will "H. D.," and as many more readers that may, especially those engaged in the nursery trade, and who therefore have special facilities for knowing, kindly give a list or lists of the best twelve hardy early flowering shrubs. Doubtless evergreen shrubs like Mahonia aquifolia, Rhododendron, and Andromeda will be noticed, but those needing wider publicity are the deciduous ones. By the term early, I mean of course to use a well known phrase, "the flowers which bloom in the spring," or in April, May and June. I do not include the Naked Jasmine, as that is not a shrub in the ordinary acceptation of the term. Possibly not one mentioned but may be well known, yet there may be some good things little known to unearths. After we have in this way obtained a list of the very best early flowering shrubs, then may well come the early flowering trees, especially those which, whilst free bloomers, do not attain to unwieldy dimensions like the Horse Chestnut. Most certainly there is great room in gardens for more flowering trees and shrubs. They are when seen objects of universal admiration, and wider knowledge of their existence may do much to popularise them.—WANDERER.

— **ONIONS.**—Elaborate directions in the preparation of the soil for Onions by trenching and manuring are very well, but they do not mean all that has to be said in relation to outdoor Onion culture. Something has to be said with respect to time of sowing seed, the thinning of the plants, the after treatment, and even the seed stocks used in sowing. Practically the latter is a matter of great importance, because there can be no doubt, as all experience tends to show, that seeds saved from Onion plants, the product of the finest obtainable bulbs, will always give finer bulbs, the treatment being the same, than will seed saved from small bulbs. So much do seedsmen understand this that all best stocks are now obtained by either growing or purchasing the finest bulbs that can be had and planting them for seed production. Some of our leading Onion growers prefer to plant bulbs of the finest and firmest they have for seed production. Times of sowing seed may well vary in localities, but the Onion plant is fairly hardy, and, therefore, seed may be sown in March, as a rule, safely. Early plants that soon become hardened are less liable to the attacks of the maggot than are later sown ones. Thinning is best done early, and if there has been a heavy hand in sowing that is a work needing considerable time and labour, and after all whilst there is some labour involved in the sowing of seed in midwinter in shallow boxes, under glass, later pricking up the young plants thinly into other boxes, and growing them on in frames until strong enough to plant out in April, yet the work is done under the most easy conditions. Then when planted out into rows thinly on good ground, there is no after thinning to do, no danger from maggot attacks, whilst the bulbs that result are in variety twice or thrice the dimensions of those sown outdoors.—A. D.

— **APPLE NANNY.**—I am sorry to tell "A. E. Devon" (page 451) that even Paradise stocks have not yet induced early fruitfulness, although in one instance this practice extends ten years with young trees. The variety is, however, being now tested by lifting periodically when budded on the English Paradise stock. I fear it is much like Blenheim Pipin in this respect; those who planted thirty years ago are now reaping tenfold more than those who planted a third of that period back—E. MOLYNEUX.

— **AUTUMN VERSUS SPRING PLANTING.**—Autumn is undoubtedly the preferable time in this country for general planting operations to be carried out. Young plants inserted in spring, especially if the soil is light, have only a poor chance of succeeding after the three months' drought, to which especially during past years, they are subjected. Rather plant in autumn, when the winter rains will have consolidated the soil around the roots and left the young trees in the best possible condition for starting into growth in the following spring. The bad effects of spring planting have, says a contemporary, been widely felt throughout England during the past four or five seasons. The planting of shrubs should, for similar reasons, be taken in hand at once.

— **STORING POTATOES.**—The horticultural department of the Oklahoma Experiment Station has been conducting experiments in the growing and storing of Potatoes during the present season. While it is yet too early to say with certainty that any given method will prove far superior to any other, some results have been obtained which indicate the following to be cheap and fully as effective as anything else tried:—After digging the Potatoes, those which show evidence of decay should be rejected, and the sound Potatoes packed in boxes with dry sand in a sufficient amount to just prevent the Potatoes from touching each other in the boxes. The boxes should be placed in a cool, dry cave, freedom from moisture being particularly desirable. While the station does not recommend this as an absolutely certain way of keeping Potatoes, it advises the trial of it on quite an extended scale.

— **TREES ON THE PACIFIC COAST.**—Next to the "sounding sea," are the "dim aisles of the forest," for filling the whole being with new life. The salt sea breeze, the undulating waves of the ocean and the pine-clad forest both bring us into a sanctuary, where we listen and almost hold our breath lest we mar the more than mortal speech of the whispering waves or the sighing leaves. 'Tis grand to be for a time on the briny deep and quaff the pure air, or to be on mountain tops and inhale the very breath of the growing trees and fill the whole being with newness of life. Let us be grateful for the breeze of ocean and for the breath of the mountain Pine. After coming to California, we had seen no running water or fir trees until we took a camping trip to the mountains. "A glowing scene of leaves and water and light," one might well exclaim upon Cayamaca Mountains, where running water made music, and various kinds of Mistletoe with their pearl-like fruit adorned the Oaks, Cedars and Pines. In the tenth United States census report there are given thirteen species of Pines as growing east of the Mississippi River; twenty-three Oaks, six Maples, four Elms, seven Magnolias, eight Hickories, and six Ash.—MRS. E. E. ORCUTT (in "Meehan's Monthly.")

— **EARLY POTATOES.**—As the Chiswick Garden authorities have determined to have a trial of first early Potatoes next year in the Gardens—a very desirable one—I should like to suggest, if it be possible and space will allow, that two plantings of each variety take place at intervals of a month. It is so much the rule to plant early varieties, even where it may not be possible to furnish needful protection, quite early that the tubers have to face a cold soil, and the tops when they come through the ground a cold, and not unfrequently, especially at night, a very cold atmosphere. Neither of these conditions is favourable to Potato production. This early planting usually takes place in March. Now I would like to see at Chiswick one row planted of a variety in March, say the last week, and one at the end of April. That would enable a fair judgment to be obtained as to the very best date for such planting and the results. Given a favourable, that is, a warm open spring, no doubt the March planting would prove the best. But then how very seldom do we have such springs, and how very often is April and the first half of May very cold and productive of white frosts. Under such conditions Potato plants are greatly checked, and not infrequently seriously injured. The late April plantings might escape such troubles, and find the soil then several degrees warmer than it would be in March. Obviously it does not follow that early planting conduces in all cases to early crops, and it may be that later planting with more favourable conditions is after all the better practice.—A. KINGSTON.

— **APPLE HILLIER'S EASTER ORANGE.**—I should like to draw the attention of planters to this Apple, which is destined to make a big reputation in the near future. In appearance it much resembles Cox's Orange Pipin, and from its name is intended for that period of the year when undoubtedly good Apples of any section are somewhat scarce. It has an attractive appearance, and should prove a boon to those who require late fruit. I have lately seen much of this Apple, and think so well of it that I intend to give it a fair trial.—E. M.

— **PRIVET AND BRYONY.**—Most people look upon the Privet as a shrub apt to make a good deal too much of itself, and the Bryony as a troublesome weed; but as sometimes seen they are beautiful. A tall Privet bush, growing in a rough part of our shrubbery, has been covered all the summer with the long Vine-like shoots and tendrils of the Bryony, and now the leaf is off, the brilliant clusters of berries against the bronzed leaves of the Privet form a strikingly pretty little picture.—R.

— **PICKING AND STEALING.**—You will see by the trade paper enclosed that the Editor has reprinted an article of mine from last week's Journal without having the courtesy to acknowledge the source from whence it was obtained. I thought you would like to know this.—THE WRITER. [The omission referred to may have been accidental, and if so the Editor of the paper in question will do what is right in the matter. Only needy editors of weak low-class journals deliberately steal matter from their contemporaries.]

— **PRESERVING FRUIT IN COLOURS.**—Experiments in preserving fruits in their natural colours have been in progress at the Texas Experiment Station. Professor Price says he now has 125 varieties of Grapes gathered last year and preserved. Most of them look nearly as well as they did when gathered from the Vines. However, it is found that 2 per cent. solution of formaldehyde discolours acid Grapes. Quite an improvement was discovered in adding enough common soda to the material to neutralise the acid in the Grapes, but even this does not make a complete preserving material for the more acid varieties.

— **HORTICULTURAL CLUB.**—The usual monthly meeting and conversazione was held on Tuesday evening at the rooms of the Club, Hotel Windsor, Victoria Street, Westminster, when there was a good attendance of members. The subject for discussion was "The Fruit Crop of 1899," which was opened by Mr. Alfred H. Pearson in a practical and instructive paper, which we give on page 466. A most valuable discussion followed, in which such experts as Mr. George Bunyard, Mr. Monro, Mr. Alfred Rivers and others joined. It was much appreciated by all present, and a cordial vote of thanks was accorded to Mr. Pearson for his paper.

— **BIRDS AND FRUIT BUDS.**—As the time is fast approaching when, according to past experience, we may expect to have our Gooseberry, Plum, Pear, and outdoor Peach and Nectarine trees denuded of their fruit buds again by the bullfinches, I should esteem it a favour if any of your correspondents would give advice as to the best dressing to apply to the trees to prevent their eating the buds. Shooting or trapping may prevent their destruction to some extent, but even then the trees are in jeopardy, and not by any means safe from attack. Gardens in this district suffered severely last winter, and consequently there was little fruit in the summer.—R. M., Babington, Bath.

— **METEOROLOGICAL OBSERVATIONS AT CHISWICK.**—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Temperature of the Soil.			
		At 9 A.M.		Day.	Night.	At 9 A.M.			Lowest Temperature on Grass.
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	Rain.	At 1-ft. deep.	At 2-ft. deep.	
1899.									
November.									
Sunday ..19	E.S.E.	deg. 48.1	deg. 42.1	deg. 46.1	deg. 36.1	ins. —	deg. 45.6	deg. 48.5	deg. 51.7
Monday ..20	W.N.W.	41.9	40.7	48.5	31.8	—	44.2	48.3	51.5
Tuesday 21	N.N.W.	37.6	37.2	46.3	32.5	—	44.2	47.9	51.2
Wednesday 22	W.N.W.	46.9	45.0	49.0	36.7	—	44.7	47.3	51.1
Thursday 23	W.N.W.	46.9	43.0	49.3	43.9	—	45.5	47.3	50.9
Friday ..24	S.W.	48.2	45.1	50.3	43.8	—	45.9	47.3	50.6
Saturday 25	S.W.	48.1	45.9	51.7	46.1	—	46.5	47.9	50.5
MEANS ..		44.5	42.7	48.3	38.7	Total —	45.2	48.0	51.1
									29.0

The weather has been dull and dry, no rain having fallen since the 9th inst.



MRS. ALFRED TATE.

TIME was when the old Etoile de Lyon Chrysanthemum was found on every exhibition board of Japanese varieties, and it was then considered a strong flower which would count well with the Judges. Nowadays, however, it is seldom indeed that an exhibition bloom is seen, as it has been completely ousted from the favour of cultivators by the scores of newer and frequently better sorts for the purpose in view. Now we are going back to the old favourite in form though not in colour, and the new variety has been named Mrs. Alfred Tate. Three flowers were exhibited at the Drill Hall at the last meeting by Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, and the Floral Committee recommended an award of merit. From one of these blooms the photographic illustration (fig. 84) was taken. The flower, as may be seen, has depth and solidity with the flat pointed florets of the parent from which it sprang. The colour is a warm terra-cotta with a deep golden reverse that should add materially to the general effect of a stand. We understand that Mr. H. J. Jones, of Lewisham, holds the stock.

NATIONAL CHRYSANTHEMUM SOCIETY.

ON Wednesday, the 22nd inst., the Floral Committee of the above Society held a meeting at the Royal Aquarium, Mr. T. Bevan presiding. A first-class certificate was awarded to Madame Von André, a pale sulphur sport from Mutual Friend, which was exhibited by Mr. W. H. Lees.

There were several other fine novelties, Lily Threlfall, a big, deeply built incurved, colour creamy white, being commended; Helen Shripton, a large Japanese, crimson and gold, C. F. Bates, a large yellow incurved, and Mrs. Alfred Tate, a warm golden terra-cotta sport from Etoile de Lyon, being the most noteworthy. A vote of thanks was accorded to Mr. Witty for a group of the curious "What Ho."

ON Monday evening last the Executive Committee of this Society held a meeting at Carr's Restaurant, Strand, Mr. Percy Waterer presiding. After the minutes had been read, Mr. Harman Payne briefly alluded to the visit of the N.C.S. deputation to the Lyons Show and promised to submit a report at a subsequent meeting; he also proposed that the Danish Chrysanthemum Society should be admitted in affiliation. A list of prize money, cups and medals awarded at the recent November show was confirmed, and a resolution passed that the usual dinner to the Floral Committee be given at the close of the season.

SECTIONISING JAPANESE CHRYSANTHEMUMS.

I, LIKE many more, am not in favour of this plan. I have seen so many attempts that it seems to me to be useless to try to get uniformity in the stands. Varieties vary so much in their developing stages as to render them quite—undecipherable, if you like; I cannot find any word to better express what I mean. Take Pride of Madford for example. This Australian variety is generally recognised as an incurved Jap, and thus it is seen nine times out of ten, but the tenth time probably produces a much more brilliant bloom than all the nine put together, simply because some growers have found a way of producing this variety in a true reflexed form. In this way that beautiful amaranth or purple colour so well displayed on the surface of the florets is fully exposed. Instances have come under my notice this season where such blooms have been awarded the prize for premier examples, and not one single petal in them showed the slightest tendency to incurve. Such instances as this seem to render the idea of sectionising the Japanese varieties useless.

Scores of instances might be quoted of other varieties developing in the same way. Even the varieties named by "A. D.," page 446, are not without exception. For instance, Mdlla. Thérèse Rey is not by any means an incurving variety when in its true character; the florets are distinctly flat, with a recurve on each side when nearing the tips. The graceful manner in which the florets of this variety assume a semi-drooping character constitutes the whole charm in the flower. Unfortunately we seldom see it now, as it is not large enough for present day requirements. Australia even reflexes its florets perfectly at times, and I must confess that in this way I like it much better than as generally seen—neither fully reflexed nor well incurved, not nearly so perfect in form as an incurved as Mr. T. Carrington, which some authorities consider is too much like Australia to be shown together.

Mrs. C. H. Payne is only a poor representative of the incurved Japanese section. I have not come across a single bloom of it this season that could truthfully lay claim to such title. The N.C.S. Classification Committee do not recognise it as an incurved form at all. Upon this ground it would be disqualified by any affiliated society. Even the new Mrs. Barkley, which I look upon as one of the finest introductions of recent times, is oftener seen with incurving florets than aught else; but to see it quite reflexed, with that charming tint of soft rosy mauve on the surface of its florets, I do not know who would wish to look upon the silvery reverse when the florets are incurved.

"A. D." is much happier in his quotation of varieties of a reflexing habit, but even there criticism is possible. Nellie Pockett, for example, is classed as a reflexed flower, whereas it is distinctly an incurving variety. I have not seen or heard of it other than as belonging to this section. Pride of Exmouth, too, is more often loosely incurving than otherwise. Below I give the names of a dozen varieties that I regard as typical of incurving Japanese; doubtless some may take exception to these. Nellie Pockett, Emily Towers, Oceana, Mrs. H. Weeks, Duke of Wellington, Robert Powell, Mr. T. Carrington, N.C.S. Jubilee, Lady Ridgeway, W. Curshaw, Western King, and President Bevan.—E. MOLYNEUX.

CHRYSANTHEMUM CULTURE FOR BEGINNERS.

DOUBTLESS the attractions of the numerous Chrysanthemum exhibitions held in various parts of the country will engender a desire on the part of many people to cultivate the plants and flowers for themselves. Those who intend doing so must shortly make up their minds to commence with the propagation of cuttings, though the culture may be started in the spring by purchasing plants established in small pots and growing them, first in cold frames, and afterwards outdoors, until the flowering period. A good house, capable of being warmed with hot-water pipes for keeping out damp and frost, is essential. The requirements of Chrysanthemums when in bloom are not great; watering the plants and managing matters so that the atmospheric conditions are right are the chief items.

In propagating and establishing young Chrysanthemum plants, not much heat is required, but there should be sufficient to keep away frost from old plants and young cuttings. A greenhouse which can be heated sufficiently for this is the best place for propagating cuttings, because they can be better attended to in such a structure than in a cold frame. Chrysanthemums which naturally flower rather late in the season are propagated from cuttings earlier than those which bloom first. The first cuttings should therefore be inserted in November and early December, the midseason flowering sorts about Christmas time, and early flowering varieties during the first two months of the new year. March, too, is a good time to propagate any section, especially small flowering sorts.

Healthy growths from suckers produce the best plants, and these will invariably be found at a distance from the main stem, and should be devoid of flower buds. Cuttings of some varieties are very persistent in forming flower buds, and on these plants it is difficult to find growths which do not produce them. The cuttings may be 3 or 4 inches long, sturdy, green and healthy, with freedom from mildew. Cut close below a joint with a sharp knife, removing the bottom leaves.

If the cuttings are to be inserted singly, 2½-inch pots must be prepared to receive them, but larger pots can be employed for a greater number of cuttings, three or four being inserted round the edge of 3 or 3½-inch pots. The compost must be light and sandy, equal parts of loam, leaf soil, and sand forming a very good mixture. Shake the soil gently down in the pots, and surface the whole with sand. Insert the cuttings firmly, taking care that the base of each rests at the bottom of the hole made. Water them in with a fine rosed can, which will level the soil and freshen the cuttings.

Success in rooting the cuttings readily largely depends on keeping them fresh, and this can only be done by preventing the leaves flagging. Dry shelves in an airy structure are not suitable positions, but stand the pots on a moist base, and cover with a hand-light. A small frame with movable lights is suitable, also a bottomless box, on which panes of glass may be laid. The inside of the glass must be wiped dry every morning. The most congenial temperature is between 40° and 50°. A high temperature weakens the cuttings, causing them to extend in growth before enough roots are formed, hence a low temperature is safer than a high one. The soil must be kept moist. Immediately roots form admit air gradually, until the covering of glass can be dispensed with entirely. A position close to the glass must after this be found for the rooted plants, in order to keep them sturdy; and water should be given each time the surface becomes dry, examining the pots daily to ascertain their condition.

In a short time the potting of each plant separately will be required, while those in single pots may have a shift into the next size; but all will not be ready at the same time, the rooting power of varieties differing. The compost for this potting may be two parts loam, one part leaf soil, crushed charcoal, and sand. After this

potting the plants may be accommodated in a cold frame, standing them on a moist base of ashes. Keep rather close, and apply water carefully. Cover up the glass on cold or frosty nights. When growth recommences air must be admitted freely, fully exposing the plants on warm mild days.

The next potting should take place when the plants have filled the small pots with roots, and this will be in April with plants rooted from November to February. At this stage of growth the potting

a week. Supply sufficient to pass through the whole mass of soil and roots, then waiting until the surface dries before giving more. Air may be admitted freely during the day after growth recommences, and a lesser quantity at night. As necessary afford the plants more space in the frames, and take every favourable opportunity of removing the lights, in order that the plants may have the benefit of increased air to render the growth sturdy.—E. D. S.

(To be continued.)



FIG. 84.—CHRYSANTHEMUM MRS. ALFRED TATE.

ought not to be deferred so that the plants become very much root-bound. In this condition the plants grow weakly, and soon become somewhat spoiled. The roots should reach the sides, and be fairly numerous, but not matted into a mass. The new soil must be compressed firmly round the ball, so that it is at least as firm as the latter. Place again in the frame, keeping close, but do not water immediately after, providing the soil is pleasantly moist when potting. The weather, however, will regulate this. If bright and hot, water the plants in two or three days; if dull, water may not be needed for

CHALLENGE VASES.

HAVING read "A. D.'s" note on page 424, and being the possessor of a 25 guinea challenge cup, after a fierce struggle for two years, and practically a walk over on the third, I should like to make a few remarks on the subject. If a trophy is offered it ought to represent the two classes, Japanese and incurved, and might be for eighteen distinct varieties of each; such numbers are within reach of the smaller growers, and ought therefore to favour better competition. The next

essential point is to see that a good cash prize is given with the vase, not the paltry award that is generally the case. Speaking plainly, these pieces of plate are bought for about seventeen or eighteen pounds, and valued at twenty-five. Again, these trophies tie you very much to the one exhibition, as they are stipulated to be won a certain number of years, and the man who has been fortunate enough to win once will take his flowers for it again rather than go elsewhere, thereby losing other and perhaps better chances. For a society to be successful it must be the tempter. I think that many societies have too many classes for the amount of subscriptions that they receive, and, therefore, they cannot give the good cash prizes which are essential to the gardener.—M. E. MILLS, *The Gardens, Combe House, Croydon.*

A FEW GOOD NOVELTIES.

THIS season we tried a number of new varieties to test their value apart from exhibition blooms. The cuttings were rooted late in the spring, and when a few inches high they were topped to make them branch. Three shoots only were allowed to grow, and these at their full length. In due time flower buds appeared, all of which developed at will. Big plants were not required, as we wanted only the comparative height of each sort, and some idea as to its flower and stem.

This latter is a point of importance, inasmuch as a considerable number of well-known show varieties have weak flower stalks that require the bloom to be propped up when large, and when grown in the ordinary way, for a quantity of flowers refuse to hold the same firm. This habit detracts from their beauty and usefulness. Freedom in producing flowers has not been overlooked either.

Calvat 1899 is a charming flower, pale yellow tinted mauve. This is especially rich. Emily Towers, white with a pink shade, also beautiful and a short grower; G. H. Kerslake, jun., white, of nice shape and good stem, with a short habit of growth; Henry Weeks, rosy crimson, bright and effective; Hero of Omdurman, crimson, of a terra cotta shade, fine in sprays of bloom; Madeline Davis, white tinted mauve, graceful in shape; Madame C. Terrier, charming rosy shade; Mrs. Coombes, light pink, a very choice colour.

President Lemaire, crimson and gold; Princess B. de Brancovan, pure white; R. Hooper Pearson, rich shade of yellow; Walleroo, amaranth; The Convention, buff, a pretty shade, and nice habit; John Pickett, Indian red, most distinct; Mrs. C. Bown, white with a green tint. This is a lovely variety; so, too, is Nelly Pickett, white with a creamy tint. Le Grand Dragon is a capital yellow variety producing an abundance of nicely shaped blooms; Master H. Tucker, is older, but splendid in its crimson shade; Mons. H. Capitant, deep bronzy yellow; Miss Mary Underhay, charming yellow shade, but somewhat tall; President Bevan, buff shaded; and Soleil d'Octobre, a fine early yellow.

The above named are all varieties of first-rate quality, and as each one, save perhaps Mrs. C. Bown, may be grown large, therefore valuable for exhibition, they may be recommended as having the desirable merits to make them popular.—SPECIALIST.

NOTES FROM IRELAND.

WITHIN easy reach of the city Chrysanthemums find a congenial home in the ample gardens of Simonscourt Castle, and a recent visit found a retired champion grower, Mr. J. Goff, busily engaged in dressing his plants. They were in excellent condition. Amongst the many choice varieties tastefully arranged in the conservatory, with Palms judiciously blended, were John Shrimpton, Princess of Wales, Etoile de Lyon, William H. Lincoln, Modesta, Charles H. Curtis, Lady Randolph, Vivand Morel, Edwin Molyneux, Colonel Smyth, Mons. Panckoucke, Mons. Freeman, and Pride of Madford.

In close proximity to the historic Clontarf Castle is situate Blackheath, and amidst Conifers and shrubs the glass structures are found. On the occasion of an evening call a few days ago, Mr. Hume was discovered willing to show his Japanese beauties. They were the picture of health, and several fine flowers were to be observed, amongst which the following are worth noting:—Australie, Julia Scaramanga, Madame Carnot, G. J. Warren, Hairy Wonder, Matthew Hodgkins, Lady Hanham, C. H. Curtis, Duke of York, Etoile de Feu, Mary Mullins, and President Nonin. Of singles, Mary Anderson and Muriel Foster were good.

At Malahide, County Dublin, Mums are finely grown, and under Mr. Jenkinson's care several varieties have come to perfection. The blooms mostly to the fore are International, Mrs. A. Payne, Mons. Hoste, Eva Knowles, Madame G. Brunt, whilst Mr. H. Cannel is a difficult type to flower here successfully, also Souvenir de Petite Amie, Lord Justice Lopes, Soleil d'Octobre, and an exceptionally fine plant of Lady Selborne; it was carrying at least twenty fully expended blooms. The lemon scented Verhena luxuriates here; several fine plants were growing against the wall with no protection, one in particular measured 15 feet high by 30 feet across. Mrs. Maldowney must feel happy considering the circumstances under which her gardener is handicapped.—A. O'NEILL.

A NOVEL CHRYSANTHEMUM EXHIBIT.

AT the Lyons Show a curious little group of dwarf Chrysanthemums in pots was shown. They had, it seems, been grown without the aid of soil, being simply rooted in moss and grown throughout the season in that material only, the necessary nourishment being supplied by waterings, when necessary, of a special kind of manure prepared by M. Truffaut, the young horticultural chemist. The plants were healthy, the blooms of good size, and in point of colour were irreproachable. It would be interesting to see the results if the experiment were carried out by some of our able growers.—C. H. P.

DUNDEE SHOW, NOVEMBER 23RD.

THE annual show under the auspices of the Dundee Chrysanthemum Society was opened in the Drill Hall on Thursday under highly favourable conditions. Internally the hall presented a very attractive appearance. Thousands of blooms, uniting rare form and exquisite tint, combined to effect a striking aggregation of colour. So far as regards the number of exhibits on view, the show was pretty much on a level with former years, but in the matter of perfection of culture, artistic grouping and arrangement, and as regards general quality, there was, says the "Dundee Advertiser," a distinct advance on anything which it has hitherto been able to accomplish.

Coming to the exhibits and the successful cultivators, the blue ribbon of the show—the challenge cup presented by Mr. J. M. White of Balraddery—was won by Mr. J. Beisart, Castle Huntly, in the cut flower section, open, thirty-six blooms Japanese, not less than eighteen varieties. The winning collection was magnificent, including, among other splendid examples, blooms of such varieties as Mrs. Weeks, Edith Tabor, Mrs. Barclay, and white and yellow Madame Carnot. Both as regards colour, shape and freshness the blooms approach as near as may be to perfection. The challenge cup presented by Mrs. George Armitstead, Castle Huntly, for excellence in the class of thirty-six Japanese blooms, distinct, went to Mr. D. Nicoll, Rossie, who showed a splendid collection, including very fine specimens of the G. J. Warren, George Seward, and Georgina Pitcher. Mr. David Keiller was a creditable third. For twenty-four Japanese blooms, not less than twelve varieties, the winner of which carries off the cup presented by Mr. J. J. Watson, Mr. Beisart was again first. Mr. T. Lunt secured premier honours and the cup presented by Mr. J. W. Bell in the competition for eighteen Japanese blooms, his yellows in particular being worthy of special commendation. The cup presented by Mrs. Armitstead for excellence in twelve blooms Japanese, incurred, went to Mr. J. Bell. For six vases of blooms, attached to which is Mr. J. M. Smieton's cup, Mr. David Nicoll made a successful bid. The cup having been won by him three years in succession now becomes his own property.

Thirty-six blooms Japanese, not less than eighteen varieties.—First and cup presented by Mr. J. Martin White, Mr. J. Beisart, Castle Huntly; second, Mr. T. Lunt, Keir, Dunblane; third, Mr. A. Duncan, Carsegravy, Forfar. Thirty-six blooms Japanese, distinct, to be shown on exhibition stands with Chrysanthemum foliage only, back row not to exceed 15 inches in height from top of stand.—First and cup presented by Mrs. George Armitstead, Mr. D. Nicoll, Rossie, Forganenny; second, Mr. T. Lunt; third, Mr. D. Keiller, Seabourne, Broughty Ferry. Twenty-four blooms Japanese, not less than twelve varieties.—First and cup presented by Mr. J. J. Watson, Mr. J. Beisart; second, Mr. T. Lunt; third, Mr. J. Bell, Burnside, Forfar. Eighteen blooms Japanese, six white, six yellow, six pink, purple, or mauve.—First and cup presented by Mr. J. W. Bell, Mr. T. Lunt; second, Mr. J. Beisart; third, Mr. W. Kennedy, Ardarroch. Twelve blooms Japanese incurred, not less than nine varieties.—First and cup presented by Mrs. George Armitstead, Mr. J. Bell; second, Mr. J. H. Cumming, Grantully Castle; third, Mr. W. Kennedy. Twelve blooms Japanese, not less than six varieties.—First, Mr. J. H. Cumming; second, Mr. J. Baird, Kinoraig; third, Mr. A. Johnston, Inchmartine House. Six blooms Japanese, distinct.—First, Mr. J. Lunt; second, Mr. P. J. Walker, Edradynate; third, Mr. John Higgins, Dovecot Park, Anstruther. Six blooms Japanese, white, not less than three varieties.—First, Mr. J. H. Cumming; second, Mr. John Bell; third, Mr. R. W. Saunders, Lismore. Six blooms Japanese, yellow, not less than three varieties.—First, Mr. R. J. Walker; second, Mr. John Bell; third, Mr. T. C. Brown, Balcarra. Display of Chrysanthemums, arranged for effect on a crescent-shaped side table, 14 feet long, greatest depth 5 feet.—Mr. R. Cairns, Balraddery.

For six plants Chrysanthemums in 6-inch pots, disbudded, any variety.—First, Mr. J. Beisart; second, Mr. T. C. Brown; third, Mr. John Mathers. Six plants Chrysanthemums in 6-inch pots, not disbudded, any variety.—First, Mr. J. Beisart; second, Mr. James Reid, Dudhope House; third, Mr. James Warden, Polepark Road. Four pots Chrysanthemums, disbudded, distinct (challenge cup, presented by Mrs. Robert Mudie).—First, Mr. J. Mathers; second, Mr. George Scott. Two pots Chrysanthemums not disbudded, distinct (Pompons or singles excluded).—First, Mr. W. Kennedy; second, Mr. D. Hendry; third, Mr. W. Doggerrell. Two pots Chrysanthemums, not disbudded.—First and medal presented by Mr. James Ramsay, Mr. J. Mathers; second, Mr. W. Kennedy; third, Mr. D. Hendry.

WOOLTON SHOW.—NOVEMBER 24TH.

THIS aristocratic suburb of Liverpool opened its first show in the roomy Parochial Hall, Woolton, on Friday last, and although somewhat late the grand blooms and an otherwise excellent array of miscellaneous classes formed a most attractive feature for all visitors.

For the handsome silver cup presented by T. Huddleston, Esq., for twenty-four Japanese, Mr. C. Osborne, gardener to Henry Tate, jun., Esq., Allerton Beeches, was the only competitor, but his blooms were of a high standard and the prize well merited, success again attending Mr. Osborne's efforts in classes for eighteen incurved and twelve Japanese and six incurved. Mr. McColl, gardener to J. W. Hughes, Esq., had a capital eighteen Japanese, and Mr. Vaughan, gardener to T. Brocklebank, Esq., The Hollies, accounted handsomely for twelve incurved, and for the prize presented by Mr. T. Driver for six Japanese, six incurved and six incurved Japanese.

Mr. J. Stoney, who succeeded Mr. Jellicoe at Camp Hill, Woolton, the residence of F. H. Gossage, Esq., had a most effective table decoration, also splendid Roman Hyacinths.

The Chrysanthemum plants from Mr. W. Wilson, gardener to H. Cunningham, Esq., Gorsey Cop, Gateacre, were models of good culture. Foliage plants and table plants were well set up by Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, and Mr. Jones.

Fruit was fine, the successful exhibitors being Col. Blackburn, Hale Hall; Mr. J. McColl, Mr. T. Carling, and Mr. W. Wilson. Roots and tubers were also included, Col. Blackburn, Mr. J. Sumner, and Mr. Carling winning. A fine collection of vegetables was sent from Woolton Hall by P. McGuffie, Esq. Perhaps nothing in the show exceeded the beauty of the brilliant Begonias Gloire de Lorraine staged by Mr. Barber, gardener to Walter Holland, Esq., Carnatic Hall, Mossley Hill.

Mr. Jno. Cowan being near to home staged a beautiful collection of Orchids in many choice varieties. Mr. Waterman and Mr. Wilson took no small pains with the staging, and Mr. Learoyd's secretarial duties were in every way satisfactory.

PROVINCIAL NOTES.

YORK.

THIS year's show has been one of the most successful ever held by the Ancient Society of York Florists, as was noted on page 456. A few more particulars, however, may be of interest to some readers. The total amount awarded in prizes was as follows:—Cash, £245 8s. 6d.; plate, £30 18s.; two challenge vases, £30; making the grand total of £306 6s. 6d. The total in 1898 was £232 4s. 6d. The receipts at the door were £325 0s. 3d., which was £11 15s. 9d. above any preceding year. A dense fog prevailed on Friday; during the evening cabs were stopped, which would no doubt prevent many from visiting the show. There were more entries for groups of Chrysanthemums than there has been for some time.

In the larger groups, interspersed with foliage plants, arranged for effect, substantial prizes were offered, the Lord Mayor and the Sheriff for the past year (Alderman Border and Mr. J. J. Hunt) presenting a cup value £15 15s., in addition to £8 8s. by the Society for the first prize. A cup was also given by Alderman E. W. Turnell, value £5 5s., and £7 7s. by the Society for the second prize. No doubt this had a great deal to do with bringing the increased competition.

As its title implies, this is a very old Society, but we cannot say how old. On the face of the Schedule, however, we find, Ancient Society of York Florists (time immemorial), re-established 1760. The payment of 5 guineas constitutes a life member, and an annual subscription of 5s. and upwards constitutes a member, who may exhibit free, and is entitled to one non-transferable pass ticket and two complimentary tickets. This year 732 members have paid their subscriptions, amounting to £184 17s. 6d., which is £10 5s. 6d. in excess of any preceding year. Besides the Chrysanthemum Show, the Society holds five minor shows, at which members only are allowed to exhibit.—J. S. UPEX.

LEEDS.

MR. GRIX, The Gardens, Gledhow Hall, Leeds, writes:—"I see on page 459, in your report of Leeds Show, that I was placed second in the miscellaneous group of plants. I beg to state the Judges awarded the two groups equal first. When a local contemporary, from which your report was taken, states that it was lumpy, the reporters can have little idea of floral arrangement. It was acknowledged by many persons who visited the show that it was the lightest and prettiest group of plants that has ever been seen in the Leeds Town Hall."

EDINBURGH.

THERE is a mistake in the report of Edinburgh Show on page 458. In class No. 7, six Japs any one variety, I took first prize with six Oceann. I have received the prize money, and have the prize ticket by me. I also gained Wells' gold medal for the best exhibit of Chrysanthemums in the show, which was awarded to my exhibit of twenty vases, three blooms of each variety.—T. LUNT, *The Gardens, Keir, Dunblane*.

MANCHESTER.

IN my report of the fine show opened on the 16th inst. in the Royal Botanical Gardens I omitted to mention the excellent group of Chrysanthemums staged by the garden authorities, which not only covered an enormous space, but proved also a great source of attraction. The majority of the plants were not disbudded, and being grown for massing effect it only went to show how valuable the autumn queen is in every respect. The plants were well grown, and reflected much credit on Mr. Weathers and his assistants. In the Orchid houses there were many pretty flowers open, and it would be difficult to find a healthier stock of *Cattleya labiate*. A special tribute is also due to Mr. E. Ashworth's gardener of Wilmalow for the magnificent plant of *Vanda corulea* which he staged. Growing in a basket, a more interesting picture could not well have been seen, and judging from the many on-lookers who inspected this beautifully coloured Orchid, carrying its twenty-five large flowers, Mr. Ashworth was more than repaid for his kindness in sending it not for competition.—R.P.R.

VIOLET CULTURE.

I TAKE much pleasure in responding to the editorial suggestion on page 381, to describe the mode of procedure adopted in these gardens, and which has proved so successful during the past five years. In the first place I choose a situation bordered by trees on the south-west, having my beds facing north-east. The natural soil is of a light sandy nature, and to this I add a dressing of half-decayed horse manure. I then look round to one of the neglected portions of many gardens (the rubbish heath), gather all the rough wood and anything likely to lay a foundation for fire, adding as required all the refuse to be found at such places, which will smoulder slowly and eventually produce cart-loads of good material for digging in with the above-mentioned manure. Deep digging is the order of the day, as Violets are deep rooting, and I have found abundance of roots 1 foot below the surface adhering tenaciously to the burnt hearth and wood ashes, which constant observation has taught me to be the best fertiliser for Violets.

I might here suggest to those who have heavy soils and are required to produce a quantity of Violets for decorative purposes, to try the experiment of digging in a fair amount of sand or road grit, not forgetting the rubbish heap, and detail the results in some future number of the Journal, which would be gladly received and appreciated by many readers.

The position having been chosen for the beds and the soil prepared, I will describe the right and wrong cuttings to be inserted at the time of planting, which should not be later than the first week in April, as they will then benefit by the warm April showers, and a substantial foundation is laid for the autumn and winter crop. I feel sure many failures could be traced to late planting. In lifting the old plants three distinct types of cuttings are found—1, those produced from runners of various lengths, which should at once be discarded; 2, the growths nestled round the old crown of last year's planting, and these are the ones on which experience has proved one may rely, and, 3, the one planted last year, and which has done duty by giving a wealth of flowers and cuttings for a future crop; this, of course, must be discarded.

The cuttings having been prepared, drills are drawn an inch deep, the distance asunder being governed by the varieties to be planted. Generally speaking, we can say, doubles, 1 foot each way, the old Czar the same distance; but Princess of Wales produces runners more freely than any variety I know, and, on account of its long leafstalks surmounted with large foliage, should be planted at least 18 inches apart. Great care is necessary in inserting the cuttings that every one is made quite firm.

Immediately this operation is completed give a thorough soaking with water through a rose can, up and down the drills mentioned, which will insure a good start; the warm genial rains which are almost sure to follow will do the rest, and water will only be required during dry periods of the summer. Our plants, between four and five thousand in number, were not once assisted by artificial watering during the trying summer just passed.

Towards the middle of July and August runners will be produced rather freely, which must in most cases be removed, care being taken to pull them out at the base. With Princess of Wales I make an exception, as the runners then produced flower freely during the spring months. Surface hoeing should be attended to at intervals during the growing season, to keep down small weeds, which are sure to make their appearance, while at the same time it tends to keep the soil sweet and healthy.

About the middle of September frames are fixed on a border facing south, with a wall 7 feet high at the back. The soil within is levelled and well trodden, and the compost for planting is put in a heap close at hand. This consists of ordinary garden soil, with a little leaf mould and Mushroom bed refuse thoroughly incorporated. Everything is then ready for the reception of the plants. Great care is taken in lifting the plants, not to shake the ball more than is necessary. These are stood on the hard bottom of the frames, no holes being dug, and the foliage of one plant touches that of its neighbour. The prepared soil is then placed round the plants and made firm by hand pressing. The next row is then stood down, the soil made up, and so on until the frame is full, keeping the soil level with the crowns as the work proceeds. Plants lifted and placed in frames in this manner with a good watering to settle the soil about them, will never suffer from the shift, and will look the next day as if they had never been touched.

Early frame planting is as beneficial as early outdoor planting; it allows the lights to be kept off and time for the sun to well ripen the crowns and foliage before the dull days of November creep in. At all times when the weather will permit have a good circulation of air, the lights being removed on favourable opportunities. Violets dislike a damp and stuffy atmosphere. Constant attention is needed during the winter months to remove decayed leaves and lateral growth.

Violets may be grown successfully by placing a few plants in pots and boxes, standing these on shelves in fruit houses where a good circulation of air can be maintained. Treated thus they will be found

useful for buttonholes during hard frosty weather when the grower is unable to take the covering from the frames. I annually grow about 400 for this purpose.—WM. JAS. PENTON, *Bowden Hill House, Chippingham.*

FORCING RHUBARB.

Time flies! How quickly it is sometimes difficult to realise during the days which come and pass so swiftly, crowded as they are with stirring events, which bring out the nation's enthusiasm and kindle into active life a great spirit of generosity which unflinchingly sweeps over the land "in the hour of need." Under the influence of such patriotic fervour the details of the ordinary round of duty are sometimes overlooked; but the gardener, above all others, must be on the alert to watch that the feeling of the moment does not interfere with future supplies. Christmas will soon be here, and with it the usual demand for fresh, crisp, brightly coloured Rhubarb, which is looked upon as a much-prized delicacy at the festive season.

Those who have a supply of good strong roots at command may by lifting and placing some of them in heat during the next week have Rhubarb in plenty at Christmas. Three-year-old roots are preferable to either older or younger ones for forcing, though old clumps will do fairly well; but, as a rule, they neither start so quickly or produce such fine sticks. The operation of forcing is one of the simplest matters connected with gardening in those instances in which a Mushroom house exists. The roots simply require to be packed closely together with some light rich soil worked between them so as to cover all up to a level with the crowns. A thorough watering should then be given, the house darkened, and a temperature of from 55° to 60° be maintained. These temperatures are more suitable than higher ones, which cause the crowns to start unevenly, and the roots sometimes to rot. After the first watering the soil ought to be allowed to become fairly dry before more is given, as constantly moist soil causes the fleshy roots to rot badly. I like to use the water at a temperature of 80°, as the sticks then seem to grow more quickly than when water at a lower temperature is given.

It is not every gardener who can afford to devote space in a Mushroom house for the above purpose. An excellent substitute may be found in deep heated or unheated pits. If the latter are employed, 3 or 4 feet of fermenting material, formed of leaves and stable manure, ought to be placed in the bottom, each layer being beaten firmly with the back of a fork as the work proceeds. The rank heat will pass off in a few days. A 6-inch layer of soil should then be placed over the fermenting material before the roots are packed upon it, and surrounded with soil. When this is done give water, close the lights, and cover with mats to keep out light. It is quite possible to produce Rhubarb by Christmas in an unheated shed, but to do so fermenting material is necessary. Roots placed in boxes in comparatively warm cellars often grow very quickly, and supply good sticks during January. Vineries which have been started also afford many odd corners in which a few roots may be placed, always, of course, taking the precaution to darken such positions.

In cases where this delicious esculent is in great demand large quantities may be forced underneath the stages in forcing and plant houses without costing a penny in extra fire heat. Market growers adopt this plan largely, as Rhubarb forcing under such conditions is profitable if one grows their own roots, but it does not pay to buy roots for the purpose, except as a means of working up a stock as well. I have a low span-roofed house, in which the temperature ranges from 55° to 65°, according to the weather. The stage is formed of slates, covered with ashes. Under the stage, on either side of the walk, are two hot-water pipes, and between these pipes and the outer wall is a space of 2 feet; we are now by degrees filling this space with roots. A board is placed against the pipes, the roots packed in closely, surrounded with soil, and well watered. Mats are then fastened from the stage to the ground to shut out light, and I shall be much mistaken if the results are not excellent in every way, as I consider the position to be an ideal one in which to force Rhubarb.

Forcing in the open ground should commence in January by placing large drain pipes, barrels, or boxes over the roots, and surrounding them with fermenting material to a depth of 3 or 4 feet, covering the tops of "the wooden or earthenware walls" also. If such are not at command, a few strong green stakes driven firmly into the ground, and fastened together at the points to form a cone, will serve the purpose of keeping the rough materials from the crowns, and answer almost as well as barrels—not quite, though, for there will be greater difficulty in pulling the produce when ready.

Roots which have been forced in houses or sheds should be placed in a cool structure for a week or ten days before being planted in the open air again, mild weather being selected for the latter operation. Divide each clump into a number of single crowns, and plant a yard apart in rich deeply dug soil. When a good stock of roots has been secured, those lifted for forcing should be consigned to the rubbish heap, as they do not form into fine plants so quickly as divided roots

from the open air. I have, however, on many occasions planted out forced roots to increase the stock with satisfactory results. The usual method of preparing roots specially for forcing is to divide old stools in winter, set them a yard apart, and allow them to remain three years before they are lifted for forcing.

The most suitable varieties for this purpose are Early Red, a highly coloured sort with rather small sticks; the best I have tried for early forcing. Hawke's Champagne is excellent to form a succession, and Victoria I think cannot be beaten for later use, as the sticks are thick and of grand colour. Marshall's Royal Early is said to be the earliest known variety; I have not tried it, but hope to do so this year.—KITCHEN GARDENER.

PAINFUL SIGHTS.

PERHAPS the saddest sight in all the world is a neglected child, and to be neglected the child may not belong to the poorest section of the community. It is often in high places and among lovely surroundings that a child is found entirely left to itself, living a dreary little life of isolation, with no hand to train and no loving tender care to expand the nobler qualities of the little being.

Next to a neglected child is a neglected or ill-managed garden. These are more plentiful, we think, than the neglected children; but they are a sorry sight. A garden is meant to be restful—a continual pleasure, a constant joy—and this not only to the owner but to all chance observers. We do not live to ourselves, we should not garden for ourselves. During the last few months our lot has been cast in a town, or rather the suburbs. We have explored a good deal; we wanted to be interested in our new surroundings. Gardening had always been a source of keen pleasure to us, and we wanted to learn by observation how to make the best of small plots.

Where land is sold by the square foot it behoves the occupier to stock to the best advantage; it is a different thing when there is unlimited room, where you can take down a fence and add a bit here and a corner there, and accommodate all your plants with exactly the situation they most affect. Gardening is easy in these cases. A new house is being built close to us, or rather several, very nice, pretty, and convenient, a piece of land railed off for a garden and left. Well, the builder appears to think soil is soil, and so far he is right; but how any man on earth could expect the strongest plants to flourish in the home provided is more than we can imagine. The jobbing gardener comes round, he makes a grumble or two—he does know a little about soil constituents, but he cannot or dare not say much, for new fresh soil means expense—carting is a serious item in a town—and if he is allowed a load or two it is not sufficient. It is wonderful how small a heap comes out of a cart, it shows nowhere on a border. Manure, too, is a difficulty; it is dear, not easy to meet with, tiresome and awkward of management (we refer here to the good farmyard article). You may do a great deal with hand tillages, but as a substrate do use some real good decayed manure.

The garden is arranged without any provision for shelter from the prevalent winds, and what an enemy wind is nobody but a town gardener knows. Red brick is the universal building material—very startling in colour no doubt—and the first idea seems to be to clothe and subdue the brick. Very well, very good. Ivy is planted—just about twice as many plants as necessary. Of course Ivy does not rob the borders of vitality. Oh, no! Flowers must just thrive as well where the ground is fairly lifted with Ivy roots as in a clear space. We are surprised to see so little *Ampelopsis Veitchii*; it does well where it is properly planted. Of course the argument is winter bareness; but there is no bareness where the network of small branches is to be seen, and then the delicate greenery of early spring and the glorious hues of autumn are simply beyond words.

One great fault we have to find with our Ivy-clad wall is the harbour it makes for snails. We go out night after night snail hunting, and yet the supply does not materially decrease. Less Ivy, fewer evergreens. Small gardens are not suitable for Portuguese Laurels, Yews (Irish or otherwise), and big *Arbor Vitæ*. The fault is that the shrubs are planted too thickly. You rarely see a shapely shrub; nothing can do well in a crowd.

Then the monotony of these town gardens is so terrible. The jobbing gardener's sole idea seems to be to put in as many plants as possible (he is paid by the score), and his taste (taking him as a class), is very poor. Henry Jacoby "*Geraniums*," and *Nasturtiums* of a similar hue, we saw recently in stone vases. How much better a contrast would have been! There is so little white, and no blue, save *Lobelia*, in these gardens. A wonderful effect could be got by some strong plants of really good white *Candytuft*. It is easily grown and compact; and where is there a better blue than *Salvia patens*? but we will warrant you may travel miles in town suburbs without seeing one plant. There is no prettier, cheaper creeper, than *Golden Moneywort*, found all along our river bank, but only two or three people have a bit of it in their gardens.

A row of standard *Roses* is generally planted. One catalogue does

for all the gardens—Baroness Rothschild, La France, Boule de Neige, John Hopper, and if you are lucky, a Charles Lefebvre, a scraggy Gloire, or possibly that other monstrosity, Reine Marie Henriette, is put into a corner. There is many a sheltered nook where a bed of Teas would simply revel. When we add that these Roses are mostly unpruned, with all the thin, knitting "needly" wood left in and covered with green fly, we leave our readers to judge of the effect. They are parodies on Roses, and fairly break one's heart. When will some prophet arise and exterminate the small yellow Calceolaria, that horror of the suburban garden? If yellow is wanted, why not have a few Iceland Poppies, or beautiful and free-flowering Corydalis, with its Fern-like foliage?

For effect and colour what will beat some good Carnation Poppies? They do not mind so much about poor land, and like sunshine. It is wonderful how Syringa will thrive even among dirt and smoke. There is an open dyke close to the city on whose bank there is a mass of the large flowered variety that filled the air with sweetness and the eye with pleasure. Just behind a police station was a grand old Pear tree early this spring like a snow mountain. What the Pear may be we do not know, but that tree should never be cut down as long as each returning spring finds it with an atom of bloom. This is the first year we have seen Sweet Pea infested with green fly. Alas! what with slug, snail, and green fly, these town gardens are sadly spoiled. No harbourage for snails, plenty of tillage to force vegetation quickly beyond the reach of enemies, a little protection from draught, a little sense of proportion, an eye for colour, a taste for the watering can, a sharp pruning knife, a deviation from the beaten track, and these poor, sad, forlorn gardens might blossom and rejoice with and as the Rose—THE MISSUS.

I have seen some beautiful *Convolvulus major* climbing up a Poplar not many yards from the main street, lightness, whiteness, and grace combined.

APPLE PAROQUET.

It is only a few weeks since Mr. Ross sent from Welford Park the splendid Apple that now bears his name. That variety doubtless created infinitely more interest than any Apple that has been raised of late years. On October 24th Mr. Ross came forward with a particularly handsome variety, which received from the Fruit Committee an award of merit. It was named Paroquet, and is represented in the illustration (fig. 85). It is a symmetrical, almost quite smooth fruit, with scarcely perceptible angles on the sides. It is broadest at the middle, tapering both to the crown and the base. The large, wide-open eye has broad reflexed segments, and is set in a perfectly smooth and moderately deep basin. The stalk is scarcely more than a knot, and is buried in the very small green-lined cavity. The colour on the sun side is brilliant crimson scarlet with numerous light specks; on the shaded side the colour is yellow tinged with green. The tube is funnel-shaped and the stamens median; the flesh white, slightly suffused with cream; it is firm, and has a sweet agreeable flavour.

THE LARGE VINE IN KINNELL GARDENS, PERTHSHIRE.

I SEND a few particulars of this famous Black Hamburg Vine, the property of the Marquis of Breadalbane, thinking that such may interest some of your readers. The Vine was planted in 1832, and has now attained to the following dimensions:—Girth of stem 1 foot from the ground 28 inches, and the arms that branch away from the stem at 6 feet from the ground are 16 inches in girth at 18 inches from the main stem. It completely fills the vinery, which is 171 feet long and 25 feet wide, covering a roof area of 475 superficial square yards of glazed surface.

Mr. Cant, an old assistant of mine, took charge of Kinnell Gardens in 1875, and the Vine still continues under his care. At the date named it was in very poor condition, and Mr. Cant found that a border had never been made for it to any extent, the natural soil into which the roots had extended being of a poor gravelly nature, the subsoil pure gravel and sand. Mr. Cant removed all the soil down to the roots, substituting turfy and better soil, with a free admixture of half-inch bones and other manures. Ever since he has watered-in liberal dressings of Thomson's Vine manure, and mulched heavily with farmyard manure. The result is seen in the fine bearing condition of the Vine at this date.

The end in view is not so much any very large number of bunches, as good substantial Grapes of fine quality. Mr. Cant informs me that this year one bunch weighed 4 lbs. 11 ozs., and many were over 4 lbs., with next to no shanking in any of the bunches. This is quite proof enough that the Vine is in good order, bearing well-coloured bunches of fleshy high-flavoured Grapes, the average weight of the bunches being 1½ to 2 lbs.—DAVID THOMSON.

THE "CANKER" FUNGUS.

It is customary with fruit growers to style the various disorders which affect and kill branches and boughs of Apple trees "canker." Injuries from frost, hail, improper and excessive pruning, and from insects, such as the woolly aphis and species of *Lachnus*, all come under this common appellation. It is the same in Germany, where these diseases are termed *krebs*, and in France, where the name is *chancre*, and much confusion exists generally as to the real nature of the maladies.

There is no doubt that frost, hail, wrong and untimely pruning, and insects have injurious effects upon Apple trees, but they are quite distinct from those caused by the canker fungus. Injuries of this nature are also frequently described somewhat vaguely as being due to hypertrophy, or excessive sap formation, whereas hypertrophy may be said to be the effect rather than the active cause of these troubles. A not infrequent notion regarding canker is that it is due to unsuitable soil, to want of drainage, or to excess, or lack, of manure, or of certain



FIG. 85.—APPLE PAROQUET.

manurial constituents. But cankered trees are found on all soils, drained as well as undrained, and where manure has been freely or sparingly applied.

And it is natural to find this, seeing that the cause of the true canker is the very dangerous fungus known as *Nectria ditissima*, which is far more destructive than frost, hail, bad pruning, unsuitable soil, too much or too little manure. Like most other injurious fungi it is difficult of detection, except by trained or careful observers. Upon examination of a bough or branch infected by *Nectria ditissima* it will be seen that some of the twigs or shoots formed are dead or dying, and that there are series of wide cracks or fissures in the bark for some distance round them, and sometimes also running upwards and downwards on the boughs, which are abnormally swollen near the twigs.

Places will be noticed in some cases upon infected trees where the bark is rolled back in raised and distorted forms round the affected branches, leaving the black and decaying wood exposed in the middle of the circular or oval spaces denuded of bark. Above these the branches are dead, or partly dead, or dying; further investigation will demonstrate that there is little living wood, and that the formation of wood has been for some long period disorganised, as shown by the irregularity of the "annual rings." The fungus on one stem, or bough, may be still living and destroying; on another stem or bough it may have died, but the bough or stem has been rendered practically useless for fruit bearing. Very large boughs are often found ruined in this way, and occasionally young trees have large canker centres in their main stems which must materially affect their powers of fruit production and their full development.

Young boughs of Apple trees often have the whole of their bark ringed by the fungus, especially near the tips, so that they die, and in this case it is generally held that frost has caused their death. It will be found that the fungus, as a rule, is located near and round the shoots or twigs, because the cuticle there is tender and to some degree extravasated and liable to receive injuries from the frost or hail, making it a convenient nidus for the spores of the fungus, which commences life as a saprophyte—i.e., a feeder on decayed substances.

The canker fungus attacks some varieties of Apple trees more than others. Those which yield the best eating Apples are most liable to it. Cox's Orange Pippin is a variety subject to this disorder, as is also the Ribston Pippin, while the Golden Pippin, and several of the Rennets or Reinettes, notably Reinette des Carmes, are somewhat liable to canker. Trees with the thinnest and smoothest bark are most liable. In France, trees bearing cider fruit are not usually cankered as much as those producing fruit for the table. Varieties of the Reinette type are specially attacked, as well as some of the Calville tribe; and in Germany, according to Goethe, Reinettes, especially the Reinette de Canada, are most frequently infected. Goethe states that the canker fungus is very common in Alsace and in the Rhine districts of Prussia, where thousands of trees succumb every year to its attack. He adds that there are certain regions where the Apple trees most liable to infection cannot be cultivated.

Pear trees are affected by *Nectria ditissima* in the same way as Apple trees. Fortunately in this country the attack on Pear trees is not so frequent as on Apple trees, though in France it appears to affect both pretty equally. The effect of the fungus and its methods of attack are precisely the same as upon Apple trees. Plum trees are also infected by this fungus.

This fungus is also destructive to Oak, Beech, Ash, Hazel, Alder, Maple, and Lime trees.

DESCRIPTION AND LIFE HISTORY.

The perithecia, or spore-bearing cases, of the fungus appear first as minute red dots. From the spores emanating from these a mycelium is produced which penetrates the rind and wood, whose juicy tissues are dried up and destroyed. The action of the mycelium in course of time, though it moves slowly, causes distortions and malformations of the surrounding parts, and death to all the branch above the centre of its action. Perithecia, or spore-bearing cases, are formed on the surface of the rind after a time. They are crimson, and are found in small groups; they are clearly visible to the naked eye, and are slightly flask-shaped. Within these are cylindrically formed asci containing eight spores, each having two colourless cells. They germinate in water quickly, and placed upon trees infect them with canker. Hartig and Goethe have infected forest trees by placing spores of *Nectria ditissima* upon their living parts. They have also infected trees by placing *Nectria* spores upon parts injured by hail, or with decayed matter on them, and show that *Nectria ditissima* is both saprophytic and parasitic. This has also been proved by De Bary.

In addition to the perithecia emanating from the mycelium of *Nectria ditissima* there is, at all events when it is actively parasitic, a formation of conidia evolved from a stroma of cushion shape. This takes place before the development of the perithecia, which contain the spore-bearing asci. These conidia have also been made by Hartig and Goethe to infect forest trees, and to germinate freely upon decayed and living tissues.

METHODS OF PREVENTION AND REMEDIES.

One obvious way of preventing the spread of canker is to be careful not to make use of grafts from infected trees, or grafts showing any trace of the fungus.

Young trees should be examined closely for any signs of canker. Any wounds caused by hail, pruning, or other causes, upon them should be viewed with a strong pocket glass to discover the red perithecia of the fungus.

Infected parts should be cut out with a sharp knife, and tar applied, and, where possible, infected branches should be cut away, and, together with all the pieces cut out, burnt to prevent the spread of the fungus.

It would be desirable to note the trees that canker most readily, and to avoid planting these varieties. And if a tree is badly cankered in an orchard, or near other trees, it would be expedient to cut it down and burn it.

A strong solution made with 20 lbs. of sulphate of copper to 100 gallons of water applied in the late autumn or winter, would undoubtedly check the fungus and destroy it in its conidia and spore stages. This could be applied with a knapsack machine where the trees are small, and upon large trees with the help of a ladder where the disease has affected only a few branches. The spray should be directed for some time on the infected spots, and it would be necessary to spray them two or three times during the winter.

When trees are badly infected they must be sprayed all over by means of a garden engine with strong pumps and long hose, like the engine used for hop washing.

Sulphate of iron, dissolved in warm water, would be of value if applied in the autumn and winter at the rate of 1 lb. to every gallon of water. It would at the same time remove lichenous and mossy growths which harbour fungi and insects, and injuriously affect the trees.

Apple trees should be kept free from the common Apple aphid, and the woolly aphid, as these convey fungus spores from tree to tree. In

woods and plantations the diseased branches should be removed from infected trees and burnt. Foresters should examine trees that show signs of decay with a pocket lens to ascertain if the *Nectria ditissima* is the cause of the evil.

[We reprint this Board of Agriculture leaflet because there is much that is good and suggestive in it. We are, however, rather sorry to see in paragraph 2 the writer distinctly implies that nothing can be done by intelligent cultivation to fortify trees against the inroads of the fungus. According to the dicta of the writer of the leaflet, no matter how wet and cold the site, or unsuitable the soil by excess or lack of manuring constituents, we have only to spray the trees with sulphate of copper in autumn or winter to insure them against cankerous infestation. We have nothing to say against spraying; it is a good and commendable practice; but we suspect thousands of cases of canker have been cured without it, and thousands more prevented by sound and intelligent cultural methods. What do practical gardeners say? The leaflet can be had on application from 4, Whitehall Place, S.W.]

IRIS KÄMPFERI.

ANY experience which will lead to the introduction of the noble Iris Kämpferi into gardens from which it is still absent, is of much value. Thus one has read with pleasure the clear and useful notes by Mr. Upex in the *Journal of Horticulture*, page 447. Like many other plants Iris Kämpferi has different requirements in different gardens. One knows of some in which it grows and flowers regularly in the border without any special treatment. In others, again, it requires a hollow round it, if in a mixed border, for the purpose of giving it a larger supply of water. In some garden this is effected by sinking a flower pot into the ground close beside the Iris; into this the water is poured. Where a bed can be set apart, as Mr. Upex has done, these requirements in the way of liquid nourishment can be readily supplied, and your correspondent's method may be commended to those who can follow it. I think that Mr. Upex will probably in a short time reap the reward of his carefully planned endeavour.

I desire, however, now that the subject has been so ably ventilated, to urge upon those who have the opportunity the wisdom of making a liberal use of this truly magnificent Iris as an aquatic or semi-aquatic plant. From time to time I have come across it under these conditions, and growing and flowering with a freedom unattainable under other treatment. In shallow ditches, by the margins of ponds, or in the shallow water at the edges of the latter, it will thrive and give its noble blossoms with freedom. For all such (and, indeed, all other) positions it ought to be planted in full sun. With its roots in water and its leaves nearly all in full sun, it is charmingly successful. I do not think, however, that it will do so well in cold, running water.

IRIS SUSIANA.

I do not think that Mr. Upex is likely to have as much satisfaction with Iris Susiana as with Iris Kämpferi in the same border. The cultivation required by Iris Susiana in most gardens is the opposite to that of I. Kämpferi. From its flowering period it should be kept as dry as possible, and this dryness ought to be as complete in the soil as in the atmosphere. None of us have been able to improve upon the method of the Rev. Mr. Ewbank, who, even in the Isle of Wight, finds it needful in growing this and allied Irises to keep the natural moisture of the soil from ascending by interposing, between the layer on which the Irises grow and that beneath, a stratum of flat paving stones. I had, however, the opportunity of seeing this year a fine little clump at the base of a south wall and in a very dry soil, where the latter precaution to obstruct the rising moisture was not adopted, and where the clump flowered regularly. One will, notwithstanding, look forward with more than ordinary interest to the results of the efforts of your able contributor, whose practical articles deserve our best thanks.—S. ARNOTT.

I AM grateful to Mr. J. S. Upex, page 447, for giving us an account of his experience with this Iris, and also for detailing his plans for the future. For a long time I have felt tempted to ask if someone among the numerous readers of the *Journal* would enlighten us in the mystery (if mystery there be) attending the culture of this beautiful plant. I find imported pieces fairly easy to flower for the first time, but I have never yet succeeded in flowering the stock the second time, the growth getting weaker every year. With me a sort of a dry rot seems to attack them in the growing season, and almost the first sign of anything wrong has been the sudden collapse of the current growth, and upon examination the rhizomes are found to be completely ruined.

I have also tried I. Lorteti and I. Gatesi, which I believe to belong to the family of Cushion Iris, but have never yet succeeded in flowering a piece. I have grown all three varieties in pots, also in a specially prepared frame, much the same as mentioned by your

correspondent, except that I exposed them to the autumn rains, inducing them to start into growth at once, which may have been the cause of failure; but I notice that pieces in pots, kept dry after flowering, and exposed to all sun, and also imported pieces not planted, show signs of activity when the month of November is approaching.

A gentleman who annually spends a few weeks abroad during March and April has given me a glowing description of *I. Susiana* as seen in the gardens and shops of the South of France. He has seen the plants growing in pots, a mass of rhizomes even hanging over the sides. What is the mystery—is it climate?

I do not quite follow your correspondent on one or two points. How does he propose to keep them dry in winter when planted out in a border as he proposes? Does he suggest they should be dormant until spring, which I take it is a difficult matter if they are to remain in the border all the winter. Again, I have some pieces just imported, would he recommend they should be planted now or in spring? It may be an easy matter with numerous readers of the Journal to grow successfully this section of the *Iris* family; if so, I am sure there are many who, like myself, would feel grateful if they will enlighten us upon their methods of cultivation.—F. WHICKER, *Kidderminster*.

CUPRESSUS MACROCARPA LUTEA.

THIS is one of the handiest and most distinct of the true *Cypresses*, and from its striking habit, freedom of growth, and rich golden colour, should become a popular plant when it is more widely known. It is of comparatively recent introduction, is hardy except in very exposed situations, and will thrive in any soil, provided it is deep and well drained.

Like the other members of this section of *Cupressus*, it is seen to the best advantage in a young state; when older, most of them get into a ragged and rough-looking condition. It is of a columnar habit, and grows rapidly when once established, forming a handsome feathery looking plant 8 to 10 feet high in a few years. The central stem is comparatively slender, and the side branches are short and much divided, and covered with small scale-like leaves.

It forms a good plant for house or conservatory decoration in pots, but when this is done it should have plenty of light and air and occasional waterings with liquid manure. It is easily raised from cuttings taken with a heel in August, or it can be grafted on *Cupressus macrocarpa* or *C. sempervirens*.—C.

POTATOES AT BIRMINGHAM.

At the Cattle, Poultry, and Root Show, held on November 25th, 27th, 28th, 29th, and 30th, there was a representative show of Potatoes, the quality throughout being remarkably good, while the size of even the largest tubers was such as might well be accepted as a model. The following are the names of the successful exhibitors and varieties.

For twelve varieties, distinct, Mr. Benjamin Scott, Scotforth, Lancaster, was awarded the first prize for The Dean, Satisfaction, Distinction, new; General Roberts, Mr. Bresee, fine; Windsor Castle, Hurst's Market Favourite, fine var.; Reading Russet, Edgemoor Purple, Up-to-Date, and Pink Perfection. The second and third prizes were awarded to Mr. Stephen Parker, Scotforth, Lancaster; and Mr. D. H. Wells, Tysoe, Kington, respectively.

For six varieties, distinct, Mr. Stephen Parker led the way with The Dean, Reliance, Satisfaction, General Roberts, Scottish Triumph, and Reading Giant; the second and third prizes going to Mr. D. H. Wells. For four varieties, distinct, two white and two coloured, the first prize was accorded to Mr. F. Williams, Thornbury, with Ideal, The Dean, Satisfaction, and Pink Perfection; the second to Mr. Stephen Parker, and the third to the Duke of Portland, Welbeck Abbey. For four varieties, distinct, most suitable for field culture, Mr. B. Parker scored with Royal Sovereign, Up-to-Date, Satisfaction, and Reading Giant, while Mr. F. Williams and Mr. D. H. Wells followed in the order named.

For two varieties, kidney shaped, Mr. F. Williams was to the front with Satisfaction and Reliance; the second and third awards going to Mr. F. Williams and Mr. Stephen T. Parker. For two varieties, round, the last named exhibitor secured the first prize with Scottish Triumph and Oigarette; the second prize going to the Duke of Portland, and the third to Mr. F. Williams. For one kidney variety, Mr. B. Parker and Mr. D. H. Wells were the respective winners. For one round variety, Mr. Thomas Penn, Thame, Oxon, was first with Satisfaction, and Mr. Benjamin Parker second. For the handsomest dish of any variety in the show, Mr. Stephen T. Parker was placed first with General Roberts, and Mr. F. Williams second with Mottled Kidney. For the best new variety not yet in commerce Mr. D. H. Wells was first with fine examples of Webb's Wordsley Seedling, the second prize going to Mr. B. Parker with an unnamed variety. It may be remarked that in each class twelve tubers constituted a dish. There were altogether sixty-six entries.

AUSTRALIAN BEAUTY SPOTS.

SOME of the loveliest scenes on earth are to be found in Australia, too frequently associated with ideas of arid deserts, impenetrable forests, and dismal monotony of landscape. No country is richer in the elements of the picturesque than is New South Wales, and Sydney holiday makers rejoice in the possession of facilities for reaching, at a nominal cost, localities more suggestive of the wonders of fairyland, such as the world-famed Jenolan Caves, rather than the prosaic surroundings of an Australian metropolis. The Blue Mountains, on the further side of which the Jenolan Caves are situated, take their rise between thirty and forty miles from Sydney, and form portion of extensive ranges, constituting, as it were, the backbone of the colony, running into Victoria on the south, and into Queensland on the north, the highest altitude being 3494 feet above sea-level.

Here are to be found scores of beautiful localities, where streams of cool, transparent water roll largely through bowers of bush and fern, and myriads of wild flowers impart an irresistible charm to the scene. There are immense gorges, rivalled only by those of Central India, stupendous waterfalls, romantic glens, and precipitous cliffs in all directions. The Wentworth Falls, so named after the well-known Australian statesman, have been described by many writers, including Darwin, who, in his "Naturalist's Voyage," says:—"Following down a little valley and its tiny rill of water, an immense gulf unexpectedly opens through the trees which border the pathway, at a depth of perhaps 1500 feet. Walking on a few yards, one stands on the brink of a vast precipice, and below one sees a grand bay or gulf—for I know not what other name to give to it—thickly covered with forest. The point of view is situate as if at the head of a bay, the line of cliff diverging on each side, and showing headland behind headland, as on a low seacoast. These cliffs are composed of horizontal strata of whitish sandstone, and are so absolutely vertical that in many places a person standing on the edge and throwing down a stone can see it strike the trees in the abyss below. So unbroken is the line of cliff, that in order to reach the foot of the waterfall formed by this little stream, it is necessary to go sixteen miles round."

Govett's Leap, a tremendous rent or depression in the earth, is said to be the deepest chasm with perpendicular cliffs in the known world. "It is," says a writer, "almost surrounded with these cliffs, which are believed to be nowhere less than 3000 feet above the level of the sea. The full sublimity and majestic grandeur of the scene is not realised at a first glance. After contemplating it for a time the mind becomes filled with awe and wonder as it vainly strives to comprehend."

— The vast immeasurable abyss
Outrageous as a sea, dark, wasteful, wild.

The trees in the valley below, although 50 to 70 feet high, or perhaps more, are undistinguishable in their individuality.

Standing on the abrupt precipitous wall one cannot help feeling a strong desire to reach the depth of the gorge. But the closer one seeks for a spot at which a descent can be made, the more certain does it appear that such an object is unattainable. It is recorded that Sir Thomas Mitchell (formerly Surveyor-General for the colony) endeavoured, first by walking and then by crawling between the great fragments of sandstone, to ascend the gorge through which the River Grose joins the Nepean, but in vain. Over the tops of this cliff a stream "pours itself headlong, over a perpendicular wall of dark tinted rock, 520 feet in sheer descent, on to a mass of black fragments of stone, which has, in the course of ages, accumulated at the base of the cataract. This descending mass of water—white and misty as the driven snow—always to and fro as the wind blows, like the veil of a bride; the vast height of the waterfall, the contrast of colour, and the undulating motion so produced imparting a very singular and most charming effect. When the sun attains to a certain altitude a rainbow plays for hours around the cloudy folds of this fairy veil."

The Katoomba Falls can be seen from several points of view, one of the finest being from the edge of a cliff overlooking the valley into which the waters descend, from which the numerous mounds, thickly covered with timber, "rising like waves in a deep sea. Afar off, on the opposite side, groups of rocks resembling some old baronial castle are seen, their heads mantled with a wreath of white fleecy clouds, and in the centre of the valley the course of a creek is clearly marked, its waters, as they flow onwards, being hidden by a thick growth of brushwood."

If the tourist desires to reach the bottom of the valley he can do so by following a well-defined track, overhung with Ferns and flowering shrubs, and for some distance comparatively easy of descent. As he proceeds, a fine view of a section of the valley is obtained, and "through an opening in the thick growth of Ferns and umbrageous trees the water, resembling a beautiful bridal veil, is seen tumbling down upon the dark depths of rock below."

There are scores of other places which possess a strange fascination for pen and pencil. Among these is Sassaparilla, or Flying Fox Gully, a favourite resort of the Fern-hunter, being one of the finest places on the mountains for almost every description of Fern and Lycopod. The place is so named from the multitudes of the strange combination of birds and animals by which it was formerly infested, and is reached by descending from the head of the gully and following the course of a stream, which increases in force as it flows onwards. From the stream, the sides of the gully, thickly clothed with Sassaparilla trees, run up in places to the height of 800 or 400 feet. There are several pretty miniature waterfalls, also several large pools. The Staghorn, Birds'-nest, and other Ferns growing here in profusion, add considerably to the

beauty of the place. Scenic tit-bits of this kind may be found in any number among the mountains, which form, during the warm summer months, a deservedly popular sanatorium, frequented by visitors from all parts of Australasia.—J. PLUMMER, *Sydney, N.S.W.*

THE YOUNG GARDENERS' DOMAIN.

CLERODENDRON FALLAX.

THIS much-neglected native of Java enjoys a warm, moist atmosphere thriving well in a close heated pit. Its brilliant scarlet flowers make a fine show throughout October and November, and it ought to be far more frequently seen. To have the plants in flower during the above-mentioned months the seeds should be sown by the middle of April in shallow pans and placed in a warm house, covering them with glass until the seedlings appear through the soil, which will be in about three weeks from the time of sowing. When the young plants are large enough, place in thumb pots and grow them in a temperature of 75° by day and 65° by night, rising with 80° with sun heat. Syringe the plants morning and afternoon, and shade from bright sunshine at all times.

The young plants should be repotted when ready, this time into 48's, in which they may flower, making the soil moderately firm. A suitable compost will consist of loam and leaf soil, with a small quantity of peat and sand added. With careful attention to watering and ventilation the plants make rapid growth and show signs of flowering in September. From this stage they make slow progress, but as soon as the trusses commence to open their scarlet flowers, which appear extra bright at this period of the year, a trifle cooler and drier atmosphere must be maintained. Should red spider appear the plants ought to be carefully sponged, for this dreaded insect quickly disfigures the handsome foliage. After flowering, the plants may be placed on the shelf in a warm house to ripen the seeds.—JOURNEYMAN.

THE PLEASURE GROUNDS.

PLEASURE grounds that are kept in a wild or semi-wild condition, may be much improved and made more attractive throughout the year by the selection and planting of a variety of bulbs and flowering plants, that will adapt themselves to the conditions under which they are placed. They will in time naturalise themselves, and be in perfect harmony with their surroundings. By this means bare and unsightly places may be utilised and made pleasing, for some part of the year at least; while the green sward where mown only once a year, might be studded here and there with bright gleams of colour. During the greater part of the year, grounds of this description need not be without something to attract the attention, other than the trees and shrubs, flowering or otherwise, which are usually found in abundance.

Coming with the advent of the year, how welcome are the Winter Aconites, when most other plants are slumbering in Mother Earth! These, heedless of the cold cutting winds, the frost and snow, lift up their heads and expand their bright golden flowers to the light of day, and when planted in large masses, under trees or on bare places, produce a most pleasing effect. Following closely upon the Aconites are the Snowdrops with their flowers of pearly white. Though unpretentious they have a beauty all their own, which is not to be disregarded so early in the year. They may be planted by the side of the paths, amongst the grass, in any or every available spot, when they will soon establish themselves and be at home.

Almost simultaneously with these come the spring flowering Crocuses, which will make the grounds gay with their bright and distinct colours. The individual flowers do not last long, but they atone for this by opening in succession. Plant them in positions where they will receive a moderate amount of sun, and they will create a floral display which will amply repay the little trouble occasioned in planting.

Quite a wealth of bloom may be obtained from the Narcissi, which are well suited for planting in quantity in the grass, by woodland walks, and under trees where the shade is not too dense. In such positions they do extremely well, and in addition to making the grounds bright, a large quantity will be obtainable for house and other decoration. The double and single forms may be used for this purpose, not omitting *N. poeticus*, which is very effective. Primroses and Forget-me-nots will luxuriate under trees and in shady places, and are well worth establishing. Violets may be naturalised amongst the grass, and many cool, moist, and partially shaded spots might be found on which to establish the Lily of the Valley. *Gentiana acanthis* grows well in some gardens planted by the side of walks, where the grass does not get long; its beautiful blue flowers are in striking contrast with the carpet of green.

Some species of *Oenothera* and *Digitalis*, the rose and white *Malva*, may be planted in the background, and a clump of some richly coloured *Paeony* has an imposing effect. The hardy *Cyclamens* might be planted on bare and mossy places, and *Colchicum autumnale* may be naturalised amongst the grass. If the ground partakes of a rocky nature a host of alpine plants can be requisitioned, many of which will succeed admirably. Thus we may aid Nature in making her surroundings beautiful and attractive, and that at no large amount of trouble or expense.—S. P.

PRUNING FOREST TREES—When, as is often the case, a branch becomes broken from a tree, whether by weight of foliage or the wind, the wound should be quickly smoothed over so as to prevent the ingress of moisture and consequent rapid decay. The non-attention to this important point has caused many of our finest old trees to become hollow and so hastened their decay.



FRUIT FORCING.

Cherry House—The pruning must now have attention. Fall-grown trees regularly stopped during growth will, however, require little pruning. Any shoots that have grown considerably should be cut back to about an inch from the base of the current year's growth, and the worn-out or decayed spurs ought to be removed. The terminal shoots in the case of trees not full sized must not be shortened unless the extremity of the trellis is reached, and the central shoots of young trees will require to be cut back as may be necessary, to originate those for filling the space regularly. The fan mode of training is the most suitable, as it admits of replacing any branch that may fall a prey to gumming. The house should have a thorough cleansing, the trees being washed with softsoap solution, about 3 ozs. to a gallon of water, and then dressed with some approved insecticide, applying it with a brush; do not injure the buds. The house must be thoroughly ventilated until the time arrives for starting the trees, but it is better if the roof-lights are off.

Pines—Slow advance in a steady uninterrupted manner should be the order at this time of year, the temperature now being lowered to its minimum in each section, which, for the fruiting plants, should range from 65° to 70°, successional houses 60° to 65°, and for suckers 55° to 60°, allowing a rise of 5° to 10° from sun heat. The house containing the fruiting plants will need attention in sprinkling the pathways and moistening other surfaces in the house as they become dry. In airy and light houses the plants will need sprinkling about once a day, having due regard to the fruit and plants in flower. The plants should be examined at intervals of not less than a week, affording tepid liquid manure liberally to such plants as are swelling their fruits, but any that are well advanced therein and approaching the ripening stage should be carefully watered, as an excess may cause the fruit to become black at the centre. Afford the plants in succession houses and pits a supply of water as needed, and to those only. The plants in every department must be given ample space, and the full benefit of light in every division, by keeping the glass clean.

Vines—*Early Forced in Pots*—Attend to the fermenting material in pits as this settles down, but the heat about the pots must not exceed 70°, as the root action will be steadier and the growth of the Vines sturdier than with a higher temperature. Supply water carefully in the early stages of growth, not giving any until the soil becomes rather dry, then sufficient to moisten it down to the drainage, not applying again until there is need. Keeping the soil constantly saturated prejudices the emission of roots, sometimes destroys those present, produces a sodden and sour condition, often resulting in shanking and bad finish. Weak tepid liquid manure may be given whenever water is required. Attend to disbudding as soon as the fruitful and best growths can be decided on for retaining, the final disbudding being made as soon as the bunches show, leaving the more promising with a surplus for contingencies. Stop the growths one or a couple of joints beyond the show for fruit, laterals below the bunch at the first leaf, and those beyond allow to extend without crowding the principal leaves. Where there is little space stop all laterals to one leaf as produced.

Early Forced Planted-out Vines—When the buds in the house started at the middle of the month (November) show signs of swelling, gradually increase the temperature so as to have it 65° to 70° by day and 60° to 65° at night by the time the Vines are in leaf, allowing an advance of 5° to 10° from sun heat. Supply tepid water to inside borders so as to insure the moistening of the soil down to the drainage, but avoid making the borders sodden. Liquid manure will assist weakly Vines. Commence disbudding when the bunches show in the points of the shoots, performing it gradually, ceasing syringing the Vines, but maintaining a genial condition of the atmosphere by damping the floors, walls, and borders two or three times a day.

Early Muscats—*Muscat of Alexandria*, to ripen in May or early in June, must be started early in December. For this purpose the roots should be confined to the inside borders, the soil of which is brought into a proper state of moisture with tepid water. Nutrient has a great influence on the presence and activity of roots, phosphates promoting their emission as also does liquid manure, which may be supplied, but not to make the soil cold and wet. Commence with a temperature of 50° to 55° at night, 60° to 65° by day, and 10° to 15° rise from sun heat, sprinkling the Vines in the morning and early afternoon, damping the paths, walls, and borders in preference to keeping the roots constantly dripping with water. Young Vines that have not been forced early will require bending down to a horizontal position to insure an even break down to the base, but old Vines may remain tied to the trellis and will usually break freely.

Succession Houses—Take advantage of every opportunity to prune Vines cleared of their crops and leafless, thoroughly cleansing them and the structures. This is a very important matter, and too often relegated to a convenient season to the prejudice of the Vines, their resting, and freedom from insects in the ensuing year. Early pruning conduces to a

strong and even break without loss by bleeding when the time arrives for forcing; cleansing the house and Vines as soon as the latter are leafless and the crops cleared prevents pests hibernating. Remove the loose surface soil and give fresh material, and a sprinkling of steamed bonemeal, or some approved fertiliser may be similarly employed.

THE KITCHEN GARDEN.

Broccoli.—Cauliflowers have been particularly good this autumn, the supply holding out later than usual. As a consequence, there has been less need to cut early Broccoli so closely, and with a little good management there ought to be no difficulty in maintaining a continuous and highly appreciated supply of these till long past midwinter. Much may be done by heavily and closely covering advancing and forward hearts with old leaves from plants, the hearts of which have already been cut, but where deep pits, vineries and Peach houses, kept cool, are available, a good portion of the early Broccoli should be lifted, with some soil about the roots, and stored in these places. The lower older leaves may be snapped off, and the plants can then be bedded in rather thickly. The roots should have rich soil firmly packed about them, also be kept constantly moist, and this will assist the plants in forming medium sized hearts. Throw mats over them in the event of very severe frost. Failing these conveniences, lift some or all of the early Broccoli and heel-in closely on a warm border, packing a little manure about the roots.

Celery.—A short spell of severe frost, which we sometimes experience in December, ought always to be anticipated. Late Celery has continued growing freely up to the present time, and if badly frosted before the final moulding takes place will not keep long. The stalks should be drawn well together, and surrounded with fine soil. A heap of dry straw litter or bracken should be kept in readiness for covering over the exposed tops when severe frost is anticipated; or boards nailed together in the form of a V and inverted over the tops make a cleaner and equally effective form of protection. The roots of Celeriac may be stored and protected similarly to Turnips.

Rhubarb.—Large old clumps of early Rhubarb lifted with some soil about the roots moved into a Mushroom house and surrounded with rich, moist soil will not be long in producing numerous tender, juicy, blanched stalks, and this is the simplest way to force it. Rhubarb is not nearly so good when forced in a dry heat and exposed to the light, a hint that should not be lost on those who utilise heated pits for forcing. There is much to be said in favour of the old plan of covering the clumps where established in the open ground, with deep tubs, or the deep earthenware pots to be obtained from most potteries forming a mild hot-bed of manure or manure and leaves over these. Those who try this method of forcing for the first time are advised to well prepare the manure before using, as the rank heat may prove too strong for the Rhubarb.

Seakale.—It is a pity to disturb old many-crowned plants of Seakale, these giving large succulent heads when forced where growing. Cover a number every fortnight or so with the orthodox Seakale's pot, or, if anything else is substituted, they must have lids both to allow heat to escape and to admit of the produce being examined occasionally and cut when fit. Cover with 3 feet to 4 feet of prepared stable manure or manure and leaves and avoid running risks. For lifting and forcing strong straight one-year-old plants are the best. Seakale should be kept perfectly dark during the forcing period, and constantly moist at the roots. It may be forced in a temperature ranging from 60° to 70°. The Lily White is the best form, but not being perfectly hardy the crowns ought to be protected from severe frost.

Tomatoes.—It is a mistake to leave young Tomato plants in the seed pans long after the second pair of leaves have formed. Instead of this the requisite number ought to be carefully lifted and placed singly, sinking them deeply, if need be, in 2½-inch pots of light loamy soil. After potting the best places for them are stagings raised well up to the light, or shelves in a house, the temperature of which ranges from 55° to 60°. Properly looked after, sturdy little plants should result, fit for their fruiting quarters early in January.



FLOWERS FOR BEES.

I SHOULD be much obliged if any keeper of bees would supply a list of such plants as are specially useful to grow in a garden for their honey.—APIARIAN.

Bee-keepers may do much to assist their bees by utilising extensively such trees, plants and bulbs that will yield either pollen or honey during ten months of the year. It is a mistake to suppose that flowers may be grown in sufficient quantity in an ordinary garden to yield honey for bees to supply their daily requirements and also store a surplus. This at first sight may appear to be in direct opposition to our opening remarks, but such is not the case.

Anyone who will take the trouble may soon form a correct opinion as to the number of flowers it would be necessary to grow in a garden

before a surplus could be stored, by making a close observation of an ordinary sized Apple tree when in full bloom. Thousands of flowers are fully expanded on one solitary tree. It may be there are hundreds of similar trees wreathed with blooms in the immediate neighbourhood. It is a well known fact that bees work freely on all our hardy fruit trees. But it is only in the most favoured localities that a surplus is stored from this source. Daily examination of the hives will show that the bulk of the honey collected is used by the bees in rearing young brood, which at that season will increase at a rapid rate. This will give the observer some idea of the wide expanse of flowers it will be necessary for him to grow in his garden before he will have as many individual flowers as is contained on an ordinary sized Apple tree. Let the bee-keeper grasp the fact that it is not from the few hundreds, or it may be thousands, of plants grown in variety in the garden from which the bees will store a surplus, but from the tens of thousands of hardy plants in the woodlands, hedgerows, and open fields throughout the country that the bulk of our honey is obtained.

ASSISTING THE BEES.

The honey season is short in this country, rarely lasting more than three or four weeks, even in the most favoured districts, except where a late harvest is obtained from the Heather. It must therefore be our aim to assist the bees by utilising such flowers as they delight to work on when the honey producing plants are not in bloom in the open fields. We lay greater stress on the early and late flowering trees and plants than on those that bloom at midseason. It is well known bees commence breeding early in the year, and brood may invariably be found in a strong colony in January. It is necessary that pollen should be provided for them, and if the bees can obtain it from flowers it is much better than giving it to them artificially. For this reason we recommend the planting of Willows. They will grow where many trees will not exist. They all yield an abundance of pollen, the earliest and best being the common Palm Willow. This is followed by the common Berberry, which affords an abundance of pollen. Among fruit trees the Apricot is the first to open its blossoms. Apples, Pears, Plums, Cherries, Gooseberries, and Currants are all excellent for the bees, whose good qualities do not end in storing honey, but in fertilising our fruit trees as well. Whilst mentioning hardy trees we must not omit the Lime, which yields an abundance of rich honey.

GARDEN FLOWERS.

In the garden proper many annuals and herbaceous plants may be planted, as the majority of them yield poll n more or less abundantly. The annuals which may be cultivated for their beauty, as well as to benefit the bees, include Mignonette and the different varieties of Poppies, the former yielding both honey and pollen, and the latter only pollen. Seeds should be sown in the spring as well as at midsummer, which will extend their season of blooming. Limnanthus Douglasi, more often called "the Bee Plant," is a dwarf-growing annual, which will reproduce itself freely from seed when once established in the ground. Wallflowers are too well known to need description; they are best treated as annuals. If seed is sown in the summer robust plants will be produced by the following autumn, when they may be placed in the permanent positions. The garden will then be gay for several weeks in the spring, and the flowers will be much visited by the bees.

Arabis alpina is one of the best dwarf-flowering bee plants. In warm situations it commences to bloom early in February, and continues for at least two months. Bees work on many of the herbaceous plants, from which pollen chiefly is obtained. The majority of the Heleniums are excellent for this purpose, as are Michaelmas Daisies. The latter also bloom at a time when pollen is becoming somewhat scarce.

Bulbs should not be omitted, the Winter Aconite being one of the earliest to flower. This is followed by the Snowdrop and Crocus. The latter should be planted in quantity, as it yields an abundance of pollen. All the different varieties of Anemone are good for pollen, so also are the numerous Tulips. The autumn Crocus (Colchicum autumnale) should not be omitted, as it blooms so late in the season.—AN ENGLISH BEE-KEEPER.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. Brian Wynne, 8, Danes Inn, Strand, London, W.C.



- All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Painting Vinery (J. S.)—Nothing would be hurt by painting the house inside as soon as the Vines are pruned and the Chrysanthemums are over; the other occupants being bedding Geraniums, it would only be necessary to move them out of the way of the painters as circumstances require so as to prevent the paint dropping on the leaves. With the admission and free circulation of air, the turpentine vapour will pass off and no harm whatever be done the plants. Such at least has been our experience. We covered the bedding Pelargoniums with tiffany to prevent the foliage being sprinkled with paint.

Good Varieties of Chrysanthemums for Decoration and Cutting (Idem).—O. J. Quintus, rose pink; Lady Selborne, white; James Salter, rosy mauve; W. Tricker, rose pink; Mille Lacroix, white; Rye-croft Glory, yellow and bronze; W. Holmes, crimson; Bertha Rendatier, yellow, rose, and bronze; Source d'Or, reddish bronze; Princess Victoria, white; Niveus and Lady L. Canning, both white; the varieties are named in order of flowering, from October to January inclusive.

Sample of Bonemeal (Birkenhead Reader).—The article appears to contain a large proportion of earthy matter, which imparts the dark colour. The bone also appears to be of a very hard nature, so that it would be slow in decomposing and yielding phosphoric acid to the soil for the use of vegetation. In other respects there does not appear anything amiss with the bonemeal, but why use an article as unpure without a guarantee of quality? We cannot undertake an analysis, and without one no definite estimate of quality and value can be arrived at. Vendors are bound to sell under a guarantee of quality if demanded, and any false statement renders them liable to prosecution.

Beet Soft and Flabby after Storing (E. T. H.).—The Beet having been on a north border would not attain the maturity of root essential to sound keeping. It would be too succulent and not rich in sugary matter upon the presence or otherwise of which depends the plumpness in keeping or the reverse. As this season has been mild they might have been left in the ground a month longer, and this would have made a considerable difference in the keeping. The right procedure is to lift the roots on a dry day, remove only the adhering soil that is easily rubbed off, and store them in a shed in rather dry (but not dust dry) sand. In very dry surroundings the roots turn soft and flabby—that is, they shrink and have an appearance unfit for use. The roots may be partially restored to plumpness by steeping in water for a time, say overnight, those required for serving to the kitchen the following day. Why not pick the roots now in rather damp sand with the tops outside? They will recover plumpness to a great extent, if not altogether.

Root Excrecence (C. Weybridge).—The swelling exhibits the peculiar phenomena of a parasite exploiting the host plant, and is of so pronounced a character that we hope to give figures in a future issue. The excrecence consists mainly of cellular tissue, and comprises a series of warts superimposed and having a common starting point on the small root of the Apple tree. The substance, 5 inches in depth and 4½ inches in diameter, is the work of a parasite, first referred to by Woronin as a fungus, and named by him *Schinzia Alni*. Müller referred the plasmodium-like structures which occur in the cellular tissue of the excrecence of the roots of Alders to a myxomycete belonging to the genus *Plasmodiophora*, and called it *P. Alni*. That on the root before us accords generally but

not entirely with the species found on Alder roots, and may be only a form of *Plasmodiophora Brassicae*. This is a matter for further investigation; it is difficult to disassociate the one from the other, and also from that of the swelling in Potato root stems or tubers, which is due to *Pseudococcis vitis*. Perhaps a dressing of lime would be of service, using chalk lime air-slaked as the land is light. A cwt. per rod would not be too heavy a dressing.

Chrysanthemum Sport (T. R., Guernsey).—The sport from Western King is one of considerable promise, and, like its parent, should be esteemed for the supply of cut bloom, notable for fine quality. Neither is large enough to be popular exhibition kinds. The shade of yellow is rather light, which may be against it in the eyes of some persons. It would be advisable to alter the name, as a new variety has already been exhibited bearing the name you suggest.

Large Vines (L. H.).—You must have either overlooked or forgotten certain references in our columns to the Kinnell, Cumberland Lodge, and Manresa Vines, all of which are much larger than the venerable monarch at Hampton Court. You will find on another page reliable information on the Kinnell Vine, which is, having regard to its size and condition, probably the finest specimen in Britain. The Manresa Vine is the youngest of the giants, and the most remarkable in England. It is covered by 3825 feet of glass, and for years has been "cribbed, cabined, and confined." Its seven horizontally trained rods are straight as a line, measure in the aggregate 1365 feet, or more than a quarter of a mile. It is about thirty-six years old, and is still in the capable hands of its raiser, Mr. M. Davis. Since 1885 it has yielded 6 tons of first-class market Black Hamburgh Grapes. The Kinnell Vine is covered by 4275 square feet of glass, or 450 feet more than the Manresa. The Hampton Court Vine is covered by 2200 square feet of glazed roof, or 1625 feet less than the Manresa and 2075 feet less than the Kinnell Vine. The Cumberland Lodge Vine covers an area of about 8100 square feet. This noble Vine continues in vigour, and yearly produces splendid crops of high quality Grapes. You will thus see that the Hampton Court is not the largest, but the smallest of the big Vines referred to.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (B. B. H.)—2, Beauty of Hants; 4, Cobham; 5, Cox's Orange Pippin, small; 6, Cox's Orange Pippin, fine; the numbers of 1 and 3 became detached; the large yellow Apple is Chelmsford Wonder; the fine Russet variety Kings Acre Pippin. (W. B.)—If the leaves of the small black Grape are downy and whitish when young the variety is Miller's Burgundy; if not downy Black Cluster. The others do not appear to be suitable for outdoor culture. The reddish black may possibly be Alicante and the white Grape Foster's Seedling; but no one could be certain from such imperfect specimens. (R. H. S.)—Probably a slightly flattened fruit of Rosemary Russet, of very good quality. (J. C. A.)—1, Court of Wick; 2, possibly a chance seedling between the Blenheim and Ribston Pippins, useful, no doubt, but not equal to either; 3, Maltster; 4, a small, coloured fruit of Dumelow's Seedling, known in the north as Normanton Wonder; 5, Ribston Pippin, but not in the best condition; 6, Willermoz, a rarely seen and comparatively inferior Pear.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (T. H. S.)—*Euonymus europæus*, the Spindle Tree. (M. L. G.)—*Sternbergia lutea*, the Winter Daffodil. (M. C.)—1, *Cypripedium barbatum*; 2, *C. insignis*, moderately good form; 3, a poor variety of *Odontoglossum crispum*. (F. F. P.)—1, *Adiantum formosum*; 2, *Saintpaulia ionantha*.

COVENT GARDEN MARKET.—NOVEMBER 29TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3	0 to 5	Grapes, black	0	6 to 8
" Canadian, barrel	10	0 15	" Muscat	1	0 8
" Nova Scotian, barrel	10	0 17	Melons	0	8 1 6
Cobnut, per 100 lb.	60	0 70	Pears, Californian, case	6	0 9
Lemons, case	14	0 20	Pines, St. Michael's, each	1	0 6

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	8	0 to 4	Leeks, bunch	0	8 to 0
Asparagus, green, bundle	4	0 4 6	Lettuce, doz.	0	6 0 10
" giant, bundle	15	0 20	Mushrooms, lb.	1	3 1 6
Beans, Jersey, per lb.	0	6 0 8	Mustard and Cress, punnet	0	2 0 0
" French, per lb.	0	4 0 5	Onions, bag, about 1 cwt.	4	0 4 6
Beet, Red, doz.	0	6 0 0	Parsley, doz. bunches	2	0 4 0
Cabbages, per tally	7	0 0 0	Potatoes, cwt.	2	0 6 0
Carrots, per doz.	2	0 8 0	Seakale, doz. baskets	18	0 21 0
Califlowers, doz.	0	9 1 6	Shallots, lb.	0	8 0 0
Celery, per bundle	1	0 1 3	Spinach, per bushel	2	0 4 0
Cucumbers, doz.	2	0 4 0	Tomatoes, per doz. lbs.	2	0 5 0
Endive, doz.	0	9 1 3	Turnips, bunch	0	8 0 4
Herbs, bunch	0	2 0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Aroms	8	0 to 10	Maidenhair, Fern, doz.	6	0 to 8
Asparagus, Fern, bunch	2	0 2 6	bunches	6	0 to 8
Carnations, 12 blooms	2	6 3 6	Marguerites, doz. bunches	3	0 4 0
Cattleyas, per doz.	13	0 24	" Yellow, doz. bunches	6	0 9 0
Chrysanthemums, white			Mimosas, per bunch	1	6 2 6
doz. blooms	6	0 9 0	Mignonette, doz. bunches	6	0 8 0
" yellow doz. blooms	6	0 8 0	Narcissus, white, doz. bun.	2	0 6 0
" bunches var.	0	6 1 6	Odontoglossums	5	0 7 6
Eucharis, doz.	6	0 8 0	Pelargoniums, doz. bunches	8	0 12 0
Gardenias, doz.	4	0 6 0	Roses (indoor), doz.	6	0 8 0
Geranium, scarlet, doz.			" Red, doz.	6	0 8 0
bunches	6	0 12 0	" Safrano, packet	1	3 3 0
Lilium Harrisii, 12 blooms	12	0 18 0	" Tea, white, doz.	8	6 0 0
" lanceifolium album	8	6 4 6	" Yellow, doz. (Perles)	5	0 7 6
" rubrum	8	6 4 6	Smilax, bunch	8	6 5 0
" longiflorum, 12 blooms	8	0 12 0	Violets, Parma, bunch	4	0 6 0
Lily of the Valley, 12			" dark, French, doz.	1	9 3 6
sprays	18	0 24 0	" English, doz.	1	6 3 6
Lilac, white, bundle	5	0 8 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6	0 to 8	Ferns small, 100	4	0 to 8
Aspidistra, doz.	18	0 8 0	Ficus, elastica, each	1	6 7 6
Aspidistra, specimen	15	0 20	Foliage plants, var., each	1	0 5 6
Chrysanthemums, per doz.	6	0 12 0	Lily of Valley, per pot	1	6 2 6
Ocotona, doz.	18	0 8 0	Lycopodiums, doz.	1	0 6 0
Dracena, var., doz.	12	0 8 0	Marguerite Daisy, doz.	10	0 15 0
Dracena viridis, doz.	9	0 18 0	Myrtles, doz.	6	0 9 0
Erica variegata, doz.	8	0 6 0	Palms, in var., each	1	0 15 0
Eucalyptus, var., doz.	6	0 18 0	specimens	21	0 68 0
Evergreens, var., doz.	4	0 18 0	Salvias, scarlet, doz.	6	0 12 0
Ferns, var., doz.	4	0 18 0	Solanums, per doz.	9	0 18 0



APPLIED SCIENCE.

ZEAL without knowledge, and clouds without rain, are things to be depreciated—the former will land the zealous one in many a bog and quickfall; the latter cause pain and anxiety by raising hopes only to leave them unfulfilled. Zeal and knowledge hand in hand bring about the most desirable results, and it is a blessing when we see them united in one person.

Applied science—shall we explain exactly what we mean? As was our first parent, many of us were placed on this earth to till and to dress it: to raise, and cause it to produce, food for man and beast, and clothing for the former. In old days this was a comparatively easy task—the weed and the Thistle were there certainly, but the soil required little cultivation to produce cereal crops. Indigenous fruits and herbs were plentiful, and flocks and herds abounded on every side. When new pasturage was needed it was merely a question of removing tents and families to some adjacent ground fruitful and well watered. As for the question of clothing, that was easily supplied—wool for the household, and an industrious family who spun and wove for them-

selves. When linen goods were introduced we have no record, but apparently very early in the world's history.

Population grew and multiplied—there was a greater demand for food, and now not so easily satisfied; the virgin land was more remote; the flocks were vaster, and needed greater pastures; something beyond merely cultivating the land was necessary. Ingredients were taken from it, and if not restored in some form or other the crops deteriorated, and could not satisfy the needs of the fast-growing population.

There have always been men in England, shall we say of an inquisitive turn? Men anxious to wrest from Nature her secrets, and by diligent study and close application they have been able to fathom a few of the mysteries that were close at hand; of the bulk, at present, the wisest among us knows nothing. These observations have been carried on quietly and persistently, no heed being paid to the scoffer, failure only urging on to fresh efforts.

To most of us a period of fifty-six years is a lifetime. Do many of us realise that for fifty-six years two men have been experimenting at Rothamsted with manures or crops? Is there not patience here? Mind, farm experiments of this sort mean only one trial a year. There is only one seed time, only one harvest; how sick most of us would have got of it, how ready to give it up!

These experiments have been a wonderful object lesson; an object lesson for whom? Where are the pupils? The classes must have changed many a time. What is the aggregate number of the pupils? Into that we had better not inquire—more shame to us. As a body the farmers of England do not shirk the necessity for manuring—the tillage till of Great Britain is something like £22,000,000 per annum, and this is only for artificial tillages, this does not include the manure left from bought food or the manure of home manufacture. We may safely estimate the manurial value of foreign-bought feeding stuff at at least £12,000,000. The artificial manure bill would amount to 25s. per acre for all cultivated land; that is a very fair estimate alone.

Lord Salisbury in 1879, when agricultural depression began to receive attention, told the farmers to manure with brains. This was considered a rather nasty uncalled for remark, but his Lordship was right. Can anyone say how much of the money spent on artificial manures was as money thrown away? We mean to say that for many and many £100 paid cheerfully by the farmer he did not get anything like that value in return.

First, of course, there was the fraudulent dealer, the man who concocted a special article at a special price, which had only one special qualification, that was to get good gold out of the farmer's breeches' pocket. Then there were those marvellous products of town waste, if stench was any guide they must be infallible, but they would not stand the test of analysis.

Then we arrive at misapplied zeal, probably a slavish following in the steps of the father. Bones and lime have been the sheet anchors of the half-educated farmer. Someone started the theory of bones being good for the land; dear they certainly were, so on they went, many on to land where from its boggy nature they would never dissolve. Half inch bones on peaty lands may now be found, though it is sixty years since any were applied. Of what good have they been? Bones to be of any use whatever must be disintegrated, and thousands of tons have been simply wasted by wrong methods of application, on the wrong class of soils.

The same with lime; what a sheet anchor that has been! and how over-application has nullified all good effect. For the plant to receive the full amount of benefit the lime must be applied in such a form as to be easily assimilated. The old manner was to spread 5 or 6 tons per acre of coarse rough stuff, trusting to time and weather to do the mixing. Now time being money, the modern way is to dress with 4 cwt. per acre of finely ground lime. This means a good deal of saving in time and leading, to say nothing of expense, and the crop receives more benefit than from the greater application of coarser material. This is just ordinary everyday tilling.

There exists a pest known to all Turnip growers as finger-and-toe. It is a protest from the land that, its natural Turnip resources being exhausted, art must step in and supply the need. The disease

germ that produces the complaint must be killed; lime will do it, but the 4 cwt. per acre is not enough. A heavy dressing will cure, but will also kill other advantageous soil organisms. This state of things must be met by a dressing applied at twice. One ton of ground lime must be ploughed in during autumn, and another ton added when the land is worked in the spring. This is a cure. The Turnips will come sound, but small. With the lime dressing it is advisable to avoid dissolved phosphates and use undissolved, together with 8 cwt. kainit and 1 cwt. sulphate of sulphate of ammonia.

The newest and most approved dressing for grass land is basic slag, a bye product of iron and steel manufacture ground very fine. Of the nature and advantages of basic slag we cannot write to-day; it is a subject too important to be treated at the far end of a paper.

There is applied science in another form that ought to be of great interest to the farmer. We mean the researches, not the causes affecting dairy work. Dairy work cannot be carried out by rule-of-thumb. There is a why and a wherefore for every phase of dairy work; there need be no bad butter or nasty cheese. No milk is now "bewitched," no cow "overlooked." There are natural causes at work to account for every phenomena, and it is by applied science we detect where the fault comes in. No body of men should be more disposed to accept the proved and tried work of scientists than farmers, and as a body they are awaking to the value of such investigations on their behalf.

WORK ON THE HOME FARM.

Grain prices again show a decline, and this in spite of the fact that there has been a lull in the thrashing operations. As regards Barley, the slow trade is caused by the heavy holdings of many merchants who have never been able to get their hands clear of the supplies with which they filled them in September. They have hung like a cloud over the markets, the samples shown many times over having given false impressions as to the supply.

We have been struck by a few remarks made at Ipswich by Mr. W. J. Seals. Speaking of Barley growing, this gentleman referred to the importance of properly dressing the grain. It is of little use taking pains with the thrashing if we allow the Barley to be damaged in the granary. No machinery will take out half, split, or bruised grains; and workmen's heavy boots, running barrows, and sharp metal shovels are answerable for much damage of this description. Canvas boots for the men, rubber-tired running barrows, and wooden shovels would prevent this, and make a perceptible difference in the quality of the delivery, which would bear fruit eventually in a keener desire to purchase the particular farmers' corn.

We have had only slight frost followed by rain. Common Turnips are still improving, but Swedes in most cases are hopeless. There is more grass than there has been since June, and it will be very useful for the ewes, which will have to go very short of roots; a day or two on Turnips once a week will be all they will get until mid-January, with the usual result of a healthy and fortunate lambing time. The ewes must not be allowed to get too low in condition. Failing roots, hay or cut straw must be given, the latter being damped, and having a little meal, culms, or grain mixed with it.

There is plenty of ploughing for the horses, and there is the manure to put on the old seeds which have shortly to be ploughed down for Potatoes. It is time this was done, for the ploughing should be completed before Christmas so as to take full advantage of all the winter frost.

Since the Potatoes were lifted, many farmers have been at work sorting and marketing. A fear as to the safe keeping of some varieties has prompted this action, which has helped to keep markets full. Notwithstanding this, prices for sound produce keep fairly firm, and there is a good prospect of a rise if the foreigner will keep his supplies at home.

OUR LETTER BOX.

Curing Bacon (Regular Subscriber).—There are many ideas about bacon curing, as tastes differ greatly, but the plan we have adopted for years is a good one. To every block of salt, finely powdered, add 1 lb. ground saltpetre. When the pork comes in from the butcher's have ready in a cool, airy place a long scalding tub, put in it a layer of the salt, rub each piece of meat carefully and well with salt, seeing that every crevice and crack gets its share; if the sides are large, an amateur had better cut off the shoulder pieces and salt separately. Cover every morsel carefully with half an inch of salt. Turn, and thoroughly rub once a week for three weeks, or better still, a month. Take out of salt, brush well over to remove any salt left, dredge with flour, and hang in kitchen or other warm place to dry. Now comes the difficulty. Many kitchens are far too warm, and the meat gets "reasty" as well as dry. Heat and air there must be, and according to the size of the joints so must be the time allowed for drying.

A practised eye can tell in a moment if the bacon is fit to be stored. The meat shrinks down from the bone of the shoulder and the ham. When thoroughly dry it has been our plan to sew closely in common calico bags, then wash over with lime water and hang in a cool granary or other airy place. The whole success of good bacon depends on careful salting and cool, airy drying and storage rooms. Tons of bacon are spoilt every year by close, stuffy surroundings. It is absolutely necessary that the pork be well set—i.e., thoroughly cool and firm—before being laid in salt. Our blocks of salt weigh about three stones.

DESTROYING CHARLOCK.—We have received a circular on destroying Charlock by spraying with sulphate of copper solution. We are also informed that the Herts County Council supply apparatus and solution, doing the work for the farmers with good results, when applied soon enough, which is when the Charlock is about 2 or 3 inches high, or freely in rough leaf.

NORTH YORKSHIRE—BAD PRICES FOR LAMBS.—The lamb fairs have been held in most instances and prices have been down 1s. a head generally for half-bred lambs, 2s. for twice cross-bred lambs. The scarcity of Turnips and want of grass is the cause of the fall in price. Many farmers have had great losses from sheep being struck with maggot. It is many years since there has been so much trouble for the shepherds. During hay time, when all hands were employed, the moor sheep suffered most; many farmers losing several sheep, if not seen every day. The great heat is the cause. On the moors where there is no shade it is worst.—S. (in "Farmer and Stockbreeder.")

CONDITIONS AFFECTING THE RAISING OF CREAM.—It is a well-known fact that the milk yielded by some breeds of cows throws up its cream much more readily than that obtained from animals of other breeds. The larger the size of the globules of butter fat contained in the milk, the more rapidly will be the ascent of its cream. It is for this reason that Jersey milk throws up a great "head" of cream in a very short time in comparison with that, say, of Ayrshire milk. The fat globules in Jersey milk, as is well known, are a very large size, whereas those of Ayrshire milk are comparatively small. Even among cows of the same breed there is great difference in the size of the fat globules. In the milk of some cows these globules are of particularly large size, and rise quickly to the surface; in the milk of other cows they are correspondingly small and equally slow in making their ascent from the serum or watery portion of the milk in which they are suspended. All these circumstances exercise a very material influence on the rising of cream when set in shallow pans. Another point deserving of notice in this connection is that the milk obtained from newly-calved cows throws up its cream more readily and more rapidly than milk obtained from animals of the same breed which have been milking for several months.—("Irish Farmers' Gazette.")

FOOD SUPPLY OF THE UNITED KINGDOM.—At a meeting held in London recently a paper on "Food Supply of the United Kingdom, Belgium, France, and Germany" was read by Mr. R. F. Crawford. In regard to the United Kingdom, the author remarked that the annual supply of Wheat has amounted on the averages of recent years to 354 lbs. (or 5.9 bushels), of which 78 lbs. are home-grown, and 276 lbs. imported. In the case of meat the consumption approaches 130 lbs. a head, of which nearly 80 lbs. are home-grown. Of the 5 million tons of Potatoes consumed, only 4 per cent. is foreign grown. The annual consumption of milk and of milk products in this country is equivalent to 60 gallons of milk per head, and 36 gallons of this are produced at home. We grow nearly 80 per cent. of our Oats, 60 per cent. of our Barley, and 50 per cent. of our Beans and Peas. Mr. Crawford concludes that we import 90 million cwt. of feeding stuffs for the production of our meat and milk, and this imported food stuff would require an area of 6 millions of acres for its cultivation. Another 6 millions of acres would be required to supply the Wheat of which our home production is short, and about 11 millions of acres to produce the beef, mutton, and milk and milk products which we import. The total of 23 millions of acres he compares with the actual figures of the country—77½ millions of acres of land and water in the United Kingdom, of which only 47½ millions are under cultivation.

MILLET AS COW FEED.—In our experience with Millet of all varieties, and also including Hungarian grass, they are more generally used as feed for horses than for cows. The Millet is allowed to get too ripe to make good cow hay, as its stalks after the seed is fully formed lose much of their juiciness, making them easier to cure, but also lessening their value for feeding. The late cutting of Millet for horses is to secure the better development of the grain. Horses are very fond of Millet seed, and like it best when quite ripe and its succulence has turned into starch. While the horse will fatten when fed with ripe Millet it cannot be considered an economical ration, as after devouring the heads and some of the leaves most of the stalk will be left in the manger uneaten. There is a greater weight of fodder to leave Millet until the grain gets in the dough stage before cutting it. But for feeding cows Millet should not be allowed to head out at all. It is not so good as corn stalks, even when cut as hay before the stalk has formed, provided the corn stalks have been allowed to attain their highest succulence. The superior sweetness of corn stalks over Millet gives them an advantage for feeding cows, as sugar is always more easily digestible than the starch, though the latter if analysed may show an equal nutritive value. In practice the sweet food will give the better results, because it is eaten with greater pleasure, and therefore digests more readily.—("American Cultivator.")

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CUT FLOWERS AND THEIR ARRANGEMENT.

THE skill of the florist which enables one to deal
with cut flowers in such a manner as to make
them appear natural and pleasing is an art not to
be acquired by everyone. There are some who
may have a great fondness for flowers, yet strive
how they may it is not in their power to place
them in such a manner, either in dress or vase, as
to make them pleasing to everyone; yet others
there are who cannot handle a flower the wrong
way, hands and eyes seem fitted for doing so without
the least trouble or exertion. From this I contend
that the cleverest florists are, like the poets, born,
not made. Many clever people will, with study
and patience, acquire the art of doing much that
does not come readily to them at first, but their
work will always lack that charm displayed in that
of the skilful artist. For this reason I feel that any
trouble I may take to point out the difference in
the arrangement of flowers will, in many instances,
be lost, and I am convinced that no amount of
reasoning would make some persons, even for a
moment, prefer the light and elegant arrangement
of flowers to that of the heavy and clumsy
cramming together which they have learnt to love
and admire.

The greatest mistakes that most people make in
arranging their flowers is—First to cut them too
short in the stem; second, to select vases utterly
unsuitable for their reception, both as to shape
and colour; and, lastly, crowd so many into one
vase as to entirely destroy the identity of either,
vase or flowers; while a fourth error is that of
placing the foliage of other plants with flowers
which are utterly unsuited to go together, and thus
spoil what might otherwise have been a beautiful
effect. For example, it is a great mistake—and in
saying so I feel I am treading on dangerous ground
—to place Maidenhair Fern fronds with a Rose for
a buttonhole; Nature was never so rudely outraged.
Nature has endued the Rose with a most beautiful
foliage of its own, and it needs no other embellish-
ment. In arranging Roses or Carnations in groups
of any kind where a light appearance is needed

No. 2671.—VOL. CL., OLD SERIES.

light grass will give a marvellous effect. There are times when some flowers require other foliage than their own to relieve and embellish them; it is then necessary to choose such foliage as will look most elegant and charming, and not detract from, but add to the beauty of the flowers used. The ordinary Asparagus "Fern," *A. plumosus nanus*, charming as it is for most purposes, should never be used with either Roses, Carnations or such heavy flowers, it tends to give them an over-stiff and formal appearance, but try the effect of Asparagus Sprengeri with the same flowers, and no one who has not seen it would credit the difference. The art of blending colours is of the greatest importance and aid in the choice of the subject to be dealt with. Flowers to look their best must either harmonise or be in direct contrast in colour, otherwise both colours are spoilt, "killed," so to speak. The effects to be obtained by using the various shades of one particular colour, or even one shade only, is marvellous, indeed nothing is more charming.

The great aim of many persons is to put value into their decorations, without which there is, to them, no charm; valuable flowers badly arranged have a pleasing effect to such, whereas art would be altogether lost upon them. The skilful artist would, however, with careful manipulation obtain better and more charming effects with even the commonest flower, that is, provided it lent itself to such a purpose. The great aim in the arrangement of flowers, whether in a bouquet or dinner table decoration, should be to obtain the best effect with the fewest possible flowers, so that they may appear at once light and graceful and at the same time lend a charm to their surroundings. Avoid anything tending to stiffness and overcrowding, as nothing can be more offensive to the trained eye; every flower should be a bouquet of itself, every leaf should have a telling and striking effect, and should be so placed as to show itself off to the greatest possible advantage; avoid the symmetrical as being in direct discord with Nature.

Bouquets arranged in the shape of a conically clipped Yew or Box tree are simply grotesque. To obtain the best effects one needs to be skilful both with the hand and eye. I say this, because I have met those who have the one but not the other, and in such cases it is impossible to excel by oneself, and the only thing to be done is to call in the aid of someone else to supply the deficiency; the old saying of two heads being better than one would be well exemplified in this case. Many of us, however, suffer from self-consciousness and refuse the beneficial aid of and criticisms of others and thus fail to attain to anything beyond the mere commonplace.

To become skilful in the manipulation of flowers a man must be content to sink self and learn something at the turning of every corner in life; he must be ever thinking out new designs, new ideas, and learning to make use of the ideas of others, fitting some into his own and improving on others. It often happens that what has cost one any amount of trouble and anxiety may be picked up in a moment from a stray word or action of someone who has not given the matter one scrap of thought or trouble. A new mode of doing a thing is always the best if an improvement on the old, but if not, it is a useless change. My idea in life has been always for improvement and never to despise the source of such improvement, however mean or humble it may be. We often gain knowledge from the boy who is far below us on the ladder of experience, but what matters if it be useful?

BUTTONHOLES.

I suppose my subject would be incompletely handled if I failed to speak of the various forms of decorations for which at the present time flowers are used, and therefore I will take them in their order, commencing at the buttonhole. This, like everything else, has been subject to the fads of fashion, but whether worn large or small, to be effective and pleasing it should be natural and elegant. In wearing a buttonhole the dress and complexion of the wearer should have some consideration in the choice of what flowers to wear. In mounting a buttonhole the foliage used should, where possible, be that of the plant from which the flower was culled, but when this is impossible as is the case with some flowers, Orchids, for instance, then care must be taken to select such foliage as will best harmonise with the flower.

LADIES' DRESS SPRAYS.

These require much more careful manipulation than the buttonhole, as being larger the great difficulty is to keep them from appearing crowded and heavy. It is therefore, important that heavy flowers must not be extensively employed, and if used at all should have some lighter ones to assist in keeping the whole graceful. Such flowers must be carefully mounted on suitable wire, to enable it to be placed and kept in the desired position or bent about as necessity requires. The whole when finished should present a natural, light and graceful appearance. Where all one kind of flower is used their own foliage is

essential, but where mixed flowers are concerned then the choice of foliage must be of such as will tend to impart the best and most artistic appearance.

BOUQUETS.

A bouquet to be pleasing need not be made of expensive flowers, but must be so arranged as to appear carelessly, though artistically, put together. It should not be crowded or heavy, but each flower ought to occupy space sufficient to show off its whole charm and beauty, and the outer surface should present an irregularity. By this I mean to say the flowers should not all be placed at equal distance from the centre or stem of the bouquet, otherwise it will present the appearance of a well-clipped hedge or Yew tree, and have the same stiffness. This rule applies also to the mounting of wreaths, crosses, and other designs. In all these the same object must be in view, that while keeping to the design in hand, yet it must at the same time when finished be at once light and artistic.

VASES.

All vases are not at once suitable for holding all kinds of flowers, and no one will be successful in this form of decoration unless suitable vases or glasses are selected for certain flowers. The shape and colour of a vase go a long way to add to the charm and beauty of flowers; it is useless to complain of effect unless suitable receptacles are provided for the flowers to be used. Most flowers look well in good clear glass, therefore if others are not available one is always safe in using these. In arranging the flowers care must be taken not to overcrowd, and foliage must always play an important part.

ROOM DECORATION.

Great taste is required here, and if possible such flowers only should be used as will harmonise with the room and furniture, and the flowers ought to be so placed as to gain the best effect, not only for themselves but their surroundings. A vase of flowers placed in the wrong position will at once lose much of its beauty, and too many flowers used in an indiscriminate manner will not only lack charm but give a hideous appearance to any room. It is, therefore, most important that all these things have the most careful consideration.

TABLE DECORATION.

In the use of either flowers or plants for dinner table decoration, it is essential that they should be so arranged and placed as not to occupy too much space and be of such a nature as not to obstruct the view of those dining. They must be light and elegant, and the simplest flowers and foliage often give the best effect. It is best to decide on the kind of flower to be used, and arrange the other portion of your table to harmonise with them. The most attractive effects are gained by using either all of one colour, or that of two colours of the same flower, which blend well together. For instance, pink and mauve Sweet Peas with their own foliage and Grasses are very charming; pink Carnations and white Daisies and Grasses also do well together, as do also pink and dark Roses, but the latter being of a heavy nature require careful handling to get anything like the charm that is obtained from Sweet Peas. I am not an admirer of the elaborate designs often used for this purpose, as, in my opinion, they are at once stiff and formal. I know they appeal very much to the admiration of some, and much has been written in their praise, but, like the dressing of certain flowers, they never repay the trouble and expense expended on their production.

CHURCH DECORATION.

Much time and trouble is expended and many beautiful flowers spoilt in church decoration by unskilful hands. The present aim in church decorations seems to be to do too much with too little material, and instead of its being left to the few who know what to do, and do it with the necessary taste, everyone who helps to supply the flowers must take a part in their disposal, and I need scarcely say this neither adds to the beauty of the church nor the good feeling amongst the workers. There are certain positions only in a church which lend themselves to the art of the decorator, and these require such careful treatment that it seldom happens that one sees what might be truly termed artistic decorations.

The communion table or altar should, of course, be the first consideration, but often the stiff formal vases used for the purpose do not add much charm or beauty, or give a very desirable effect. Flowers for this purpose should be of a bold or showy character, and ought to be used in such numbers only as will tend to make the most of every flower and give the best effect, not merely to a close observer, but to the congregation. The pulpit is another suitable place, but is too frequently covered in such a hideous fashion as to destroy all semblance of beauty. The various other parts for decoration should be selected with the same object in view, and, of course, in accordance with the way in which the edifice lends itself for the purpose. The flowers should be disposed of in such a manner as not to destroy the architectural beauty of the church, but to add a further charm thereto.—(Read by Mr. W. MACKAY, at a meeting of the Devon and Exeter Gardeners' Association.)

THE PROPOSED NATIONAL GRAPE TROPHY.

CONSIDERING that four out of the five letters that we now publish bear the above heading, and the fifth is a close approach thereto, it is for the present adopted. It is scarcely necessary to explain that these communications had to stand over till the Chrysanthemum crusade had come to a close. It was brilliant yet brief, and during its continuance of commanding interest, and the reports of shows could not wait. The subject of the "Trophy" is now resumed.

IN formulating conditions under which a challenge trophy should be competed for, I think Mr. Thomas and "A. D.'s" proposed range of produce is rather too wide to be fair as between Scotland and England. Both the soil and climate of especially the south and south-west of England are so far superior to the soil and climate of Scotland that the poor Scots would be terribly handicapped in competing with hardy fruits, especially the two premier fruits, Pears and Apples. I think, therefore, that in formulating conditions to be perfectly fair, or as nearly so as possible, no hardy fruit class should be embraced.

There would be no objection to collections of fruits grown under glass. Your correspondents must be perfectly aware that there would be no chance for Scots with growers from Kent and many other English counties. We have neither the strong soil nor especially the heat and bright sun to swell Apples and Pears to the size and colour they attain in the south.

One of the matters to be studied in such a competition as is proposed ought to be the making of conditions that would place "John, Pat and Sandy" on a fair field. I feel sure the triplet would give as gallant an account of themselves as they are giving just now in a very different contest.—D. THOMSON.

THE above is undoubtedly a very attractive title as well as a very alluring subject; but why not substitute for the word National—Colonial and International; and for the word Grape—Fruit?

Such a title, with such an object, would not then appeal to a comparatively small section of the horticultural community, but would commend itself to every person interested in horticulture. It would also command universal attention and respect, and insure the hearty support and co-operation of every section of society. It would, moreover, prove to be, not only an object worthy of the closing years of the nineteenth century, but it would be in strict accordance with the true, progressive, and colonial spirit, so wisely engendered and so cleverly and persistently nurtured by our leading statesmen.

Such a scheme would undoubtedly require special, most efficient, and very influential organisers, all of which could be found without difficulty, provided the initial steps were undertaken by the best and most influential public horticultural societies of England, Scotland, Wales and Ireland combined.

Exhibitions conducted on the old lines are becoming annually less interesting, less attractive, and less educational, hence the great necessity of a "new departure," and what more suitable time than the present for such a departure as here suggested, when colonial enterprise, extension, and prosperity are on every lip and close to every Briton's heart?

We in the old country may perhaps excel in the cultivation of some kinds of fruit, as tersely expressed by one of your correspondents, and therefore be able to enlighten our colonial and continental friends. On the other hand, we must admit that in the cultivation of many other kinds we have much to learn from them, so that the obligations would be mutual, and the advantages gained by friendly intercourse and rivalry inestimable.

Colonial and continental travellers and writers have long striven to remove the scales of ignorance from our eyes, but with little effect. Such exhibitions, however, would tend more to that result than volumes of letterpress could do. Such exhibitions would undoubtedly have to be carried through on the broadest, most unselfish, most generous, yet discreet lines; but this should not prove a bar to successful results.

Every day is carrying us nearer to cheaper and more plentiful importations of colonial and continental produce. Let us also hope that the time is not far distant when we shall be in a position to make them some compensation by a substantial exportation of those fruits, in the cultivation of which we are supposed to excel.—T. CHALLIS, *Wilton House, near Salisbury.*

If it will help the cause by all means let Mr. Buchanan or any anxious aspirant take the credit of being the originator of the enterprise; still I may inform Mr. P. Murray Thomson that the idea is not new in the South. About twelve months ago I had some correspondence with Mr. Sydenham, of Birmingham, also the Shrewsbury authorities, on the selfsame business; so if September was the first time Mr. Murray Thomson heard of the proposal he is a long way in arrears; but it is of very little consequence, at least as far as I am

concerned. As regards the alleged past misdeeds of some of the R.C.H. Society's officials, we must hope for better things under the new régime that will lead to a happier feeling amongst the pruning-hook brigade, otherwise twenty trophies will be useless for the purpose we have in view—namely, the healthiest rivalry in the beautiful art of Grape culture and exhibiting in both North and South.—J. H. GOODACRE.

WHILE not now an exhibitor of Grapes I am much interested in any subject bearing upon Grape culture. With this view I have followed closely the recent notes published in your columns on the above-named subject, and my conclusions are as follows:—

1, It would be a good arrangement to have a Grape trophy for England. Scotland and Ireland might wisely do the same if they thought proper.

2, It should be called the Twentieth Century Grape Trophy. Had it been arranged sooner Diamond Jubilee or Victorian Medal Trophy would have been more appropriate.

3, Cash prizes of sufficient value should accompany every competition for the trophy.

4, The employer of the gardener who wins the trophy should, if he wish, be the legitimate holder of it for the time being.

5, The winner of it for any one year should be debarred from competing the following year.

6, The competition should take place in London and some provincial centre in alternate years.

7, If possible the Royal Horticultural Society should be the responsible holders of the trophy, and the money should be raised under their auspices. I am not a member of the R.H.S., so can have no possible interest in the matter.

A small committee of members of that Society should be appointed every year to arrange where the trophy is to be competed for when away from London. The Society under whose auspices the show is held to be responsible for the cash prizes, which in the aggregate should not be less than £25. I refrain from going into details, as most of those who have written to you will see I have "cribbed" a bit from several, if not all of them.—H. J. CLAYTON, *Grimston, Tadcaster.*

ALTHOUGH the first to make this matter public, I was not the originator of the idea, that honour, as has been clearly stated by Mr. Murray Thomson, belongs to my partner here, Mr. Wm. Buchanan. That the idea has "caught on" is proved from the extensive correspondence, and the practical interest shown in the subject by so many of our foremost Grape growers, exhibitors, and gardeners generally. Let us hope the matter will now take definite form, and to assist this I will state as clearly as I can the original intention and conditions upon which the annual competition would take place.

Let all interested in England (including Wales), Scotland, and Ireland be given an opportunity of subscribing to the trophy, which should be of the value of £100, of artistic and appropriate design. In the event of more than this amount being subscribed—a not unlikely thing—the surplus to be used in purchasing small gold medals, with suitable inscriptions, to be given to the first prize man in each competition. The trophy itself never to be won outright, but to remain as an annual international challenge trophy, open to the world. Although there is little chance of any outside the United Kingdom ever competing, this "open to the world" would certainly count much to the honour of the lucky winner. The prize money to go along with each competition to be provided by the society at whose show the competition is to take place, amount of such prize money not to be less than £50, divided something like this: £15, £13, £10, £7, and £5, with the option of increasing the amount if the society chooses. As to the number of bunches and varieties, the minimum to be eight bunches, four varieties, and the maximum twelve bunches, six varieties, the society holding the competition to decide the number according to the amount of prize money they offer.

Only one society is required to start the competition. To my mind two societies stand clearly out among all others as entitled to secure this honour; these are Edinburgh and Shrewsbury. It matters little which is decided on, both we know if they took it up would do so in no half-hearted manner. To guard against any little irritation that might arise among so many strong societies in England which are in a position to start the competition I would suggest that, seeing the idea of the present proposal originated and was first discussed in the capital of Scotland in connection with the Royal Caledonian autumn show, we allow this society, as the premier horticultural society of Scotland, to have the honour of the first kick off.

Assuming that this is so, and the first contest takes place in Edinburgh, if the trophy is carried off by a grower in England, Ireland, or Wales—no matter what his nationality is—that country claims the honour for the year. The winner to have the option of handing the trophy to any society in his country willing to provide the necessary amount for the next competition, and complying with the rules and

conditions as would be set forth. Say that a grower in England was the first winner, the next contest would be on his part a defending of the cup or trophy, which would remain in England until it was won elsewhere. In the event of it staying for a number of years in the same country it might be advisable to change yearly the place of contest.

If carried out on something after the above lines I am confident the project would be a success. Those observations meet many of the objections raised by correspondents—such as leaving Ireland out—and also embody most of the suggestions already made public. The proposal to have the trophy won outright, say on the same competitor winning it three times, would, in my opinion, if adopted, be the death of the competition on the first cup being lost. I agree with "A.D." that to attempt to raise £100 every few years must not only be difficult but would entirely destroy the value and honour attached to a permanent trophy. In the case of the "America Cup" it is not its value as a cup which creates such world-wide interest and rivalry to obtain its possession, but its association, and the longer it remains in America the keener and more determined will be the efforts made to bring it to Britain and the greater honour to the grower who succeeds.

There is certainly something in what Mr. McIndoe says about the serious drawbacks he sees in the two Royal Societies having to do with this trophy. In the London case it is a case of starvation among plenty, a difficulty in raising £100 in the richest and largest city in the world, as is apparent by the efforts in connection with the fruit shows at the Crystal Palace. This may be overcome; I am not so sure about the other drawback, viz., to alter their rules to those of Shrewsbury and Edinburgh in making a big prize open to all.

I know nothing about Mr. McIndoe's quarrel with the Royal Caledonian Society, but this should not in any way interfere with that society taking the matter up. His position as an exhibitor for the trophy would no doubt be exactly on the same footing as others. I may inform him, however, that things are differently managed there now.—D. BUCHANAN, *Forth Vineyard, Kippen.*

[Having published some thirty letters on the subject under discussion it will, perhaps, be admitted that sufficient material is forthcoming to form a basis of action, having for its object the realisation of the desire so clearly expressed. The whole matter shall be considered, and some practical proposition formulated in a future issue of the *Journal of Horticulture*.]

PREPARING SOIL FOR VEGETABLES.

TAP-ROOTED VEGETABLES.

THE best results can only be attained in the cultivation of tap-rooted vegetables by deep cultivation of the soil. This enables the long principal tap root of Beets, Carrots, Parsnips, Salsafy, Scorzoner, and Horseradish to descend into the subsoil, which, if this is loose and rich, it can readily do, and there gather food and moisture which will eventually be stored in the principal root. No amount of manure will compensate these vegetables for the loss of a deep root run. However rich and good the soil may be near the surface, it can only produce a stunted growth in comparison with comparatively poor but deeply worked soil in which the roots can penetrate.

This is the best season to prepare the soil, and the method of doing so is to trench 3 feet deep if possible, adding a good layer of thoroughly decayed farmyard manure on the top of the lowest spit, which may be well broken up but left where it is. Practically no manure need be added to the top spit, as in ordinary rich soil it will be in fine condition after digging and pulverisation, following on the winter's exposure.

It is usual to cultivate all tap-rooted vegetables on ground that has been previously freely manured for another crop. One of these tap-rooted crops may follow Celery, as this is invariably heavily manured, and in the course of its cultivation the soil is worked to an extra depth. A rich but shallow worked soil causes tap-rooted vegetables to become forked. There is every inducement for the roots when young to branch in several directions if encouraged by manure, upon which the young roots lay hold. Hence it is very important that they should not reach it during the early stages of the plant's growth. Placed in the lower strata of soil it is handy for the tap-root when it has descended. The comparative poorness of the top soil causes the root to descend for food and moisture. Whether they do reach the manure or not matters little, as it is certain the loose and friable medium in which they can ramify acts beneficially in strengthening and lengthening the main root.

Complete trenching, that is, reversing the layers of soil, ought not to be carried out unless the soil is in good heart throughout, for a poor inert subsoil is not suitable for the growth of the seedlings in their early stages. The safer method is to stir as deeply as possible, but keep the layers of soil in the same relative position as previously.—E. BARROW.

CULTURE OF DWARFED (JAPANESE) TREES.

JAPANESE work in its varied forms—and much of it is excellent and interesting—meets with far greater attention in this country than was customary a generation ago. Not the least interesting to many persons are the curios of the ingenious and industrious little people, and among their peculiarities the remarkable pigmy trees receive a share of attention—a growing share it is said. They are liked for balconies and other positions, and would be liked better if they could be kept in health. It has been supposed that they were produced, and some of them kept in health for centuries, by "secret" methods of procedure, but if what we find in a circular issued by the Yokohama Nursery Company is correct the so-called secrecy may be described as condensed common sense. We should not be much surprised if the routine has been rendered in English by Mr. Peter Barr, who has been among the pigmies (trees) in their native country, and looking down on a few centenarians among them from an altitude of about 5 feet 9 inches. Be that as it may, we republish the following narrative of their management.

During spring and summer by preference keep *Thuia obtusa* in a sunny airy situation, where the wind will pass freely through the branches; water once a day, giving just enough to make the soil moist. In hot dry weather it may be necessary to give water twice a day, care, however, should be taken not to have the soil wet, and never water unless the plant needs it. Sprinkling the branches in dry weather is bad, but rain is always beneficial. During winter keep the tree in a cold greenhouse partially shaded, or in an unheated orangery, giving water about once in ten days; the soil, however, must never be allowed to get dry. The science of successful culture of all plants in pots consists in judicious watering, giving too much or too little is equally bad.

Treated as above this plant is very ornamental on balconies and terraces. If this plant is kept indoors it should always be placed out of doors at night, and as often as it is not wanted for decoration. Indoors it should never be exposed to the dry heat from a stove or open fireplace, otherwise the leaves will fall and the plant perish.

Pinus pentaphylla, and Pine trees in general, growing in jardiniere, require the same attention in watering and general treatment as *Thuia obtusa*, but are not so much influenced by atmospheric conditions; nevertheless, sun and air are necessary to maintain health, therefore keep the plants out of doors as much as possible.

Maples and other deciduous trees take the same treatment as *Thuia obtusa* as regards watering, but are much more accommodating than evergreens. In fairly mild climates the Maples may remain out of doors all winter, but where the frost is very severe they should be kept in a cool cellar after the leaves have fallen in autumn; the soil must always be kept moist, but not wet; early in spring put the plants out of doors and fully exposed to all weathers, and when in full leaf use for decoration indoors as needed.

When the trees commence growing in spring we give manure twice a month, say in March, April, May and June, again in September and October; in the hot days of July and August we give no manure, and the same in winter and early spring, the plants then being at rest. The best manure is finely powdered oil cake or bonemeal. To a jardiniere 1 foot in diameter we give three or four large teaspoonfuls, not heaped, of this dry manure spread evenly round the edge of the jardiniere; a larger or smaller jardiniere will require more or less, a small jardiniere, say 3 inches by 6 inches, half a teaspoonful will be ample each time.

Repotting is done by us once in two or three years, as follows:—Lift the plant out of the jardiniere, and with a sharp-pointed stick remove about one-third of the old soil round the edges and bottom, cutting away a portion of the old fine roots but none of the strong ones; then replace the plant in the same jardiniere, first looking to the drainage. For a small shallow jardiniere we use a flat piece of tin or a flat crock over each hole, above this spread some rich fresh soil, neatly balance the plant, and fill up with the same rich fresh soil to within half an inch of the rim; this holds the water, and prevents the manure being washed over the sides of the jardiniere.

The soil should be made sufficiently tight round the edges of the jardiniere to prevent the escape of water, it being of the first importance that the entire ball of soil round the plant be moistened at each watering. Should the watering of the plant at any time be neglected, and the soil has become quite dry, put the jardiniere in a tub of water for ten or fifteen minutes, not longer, and if the injury is not too serious the plant will recover. In the case of large plants we use hollow crocks for drainage, the same as is used by growers of specimen plants. After several repottings, the plant having increased in size, shift into a larger pot, but as dwarfness is the thing aimed at the smaller the shift the better. Repotting should be done February or March, just before spring growth commences.

We advise, when it is possible, to get the above work done by a

good gardener who has been accustomed to the handling of Heaths and New Holland plants. In the case of very shallow jardiniers we find it desirable annually to replace a portion of the old soil to maintain a healthy growth.

To maintain dwarfness in the trees pinch back the young growth. This we usually do from April to middle of June, and always with the finger and thumb, a practice followed by the late Mr. Thomas Rivers of Sawbridgeworth when preparing his dwarf trees for fruiting in pots. In *Thuia obtusa* we pinch out the points of the young growth all over the plant to maintain the form; this practice we also apply to *Cryptomeria* and all other Conifers except *Pinus*. *Pinus* we pinch out the points of the irregular growth simply to maintain the shape of the plant. Of *Pomegranate*, *Lagerstroemia indica*, *Flowering Peach*, and *Flowering Cherry* we pinch back the non-flowering shoots either before or after blooming; *Wistaria*, in July and August, we pinch back all the young growth, leaving only four or five leaves on each shoot. Maple and other deciduous trees are pinched back at the same time as *Thuia obtusa*, leaving two to four leaves as may be necessary to maintain the desired shape of the plants. Should a second growth be made the same rule is followed of pinching out the points.

EARLY FLOWERING DECIDUOUS SHRUBS.

THE pithy note of "Wanderer," on page 474, reminds me of a weak point in gardens generally by the conspicuous absence of shrubs which flower during the spring. This certainly ought to be remedied, as some of the most showy shrubs in commerce flower during the first six months of the year. I therefore gladly respond to the suggestion of "Wanderer," and give a list of what I consider to be the best dozen, all of which may be kept within dimensions desirable for shrubs, as distinguished from trees. I will also follow with an article dealing with the matter from a broader point of view:—*Daphne Mezereum*, pink, February and March; *Cydonia japonica*, scarlet, March; *Ribes atro-sanguineum*, red, March; *Amygdalus incana*, red, March; *Kerria japonica*, orange-yellow, April; *Prunus triloba*, rose, March or April; *Lilac—Syringa alba grandiflora*, May; *Philadelphus grandiflorus*, white, June; *Weigela rosea*, rose, May; *Forsythia viridissima*, yellow, March; *Viburnum opulus var. sterile*, white, June; and *Azalea mollis*, with its numerous varieties, May. For warm localities in the southern counties I would substitute *Magnolia conspicua* for the *Philadelphus*, and *Magnolia Soulangeana* for the *Weigela*.—H. D.

By asking for a list of the twelve best spring flowering shrubs, principally deciduous, your correspondent "Wanderer," in the last week's issue sets a very difficult task, as a great many plants have to be excluded which have qualifications for a front place in any collection. Had the best fifty been asked for the task would still have been hard, for after being in close contact with the Kew collections for several years, and noting down really good shrubs and small trees, as they have flowered, I find that I have about 300 first rate kinds that flower before the end of May. Of course in that list there are a number that are only really hardy in the South, such as *Magnolias*, others that will not grow on any soil, such as the majority of *Ericaceous* plants, and others again which are still very rare and unobtainable to the majority of growers. The following list I have selected as being the most likely to meet the demands of the majority of planters, all perfectly hardy, and all first rate flowering shrubs. Their flowering covers a period of from four to five months.

January.—If the weather is mild *Erica mediterranea var. hybrida* begins to flower very early in the month, continuing in good condition until the end of March. It is an improvement on *E. carnea*, and stands any ordinary amount of frost without injury.

February.—The best shrub to flower in this month is *Daphne Mezereum*, one of the most showy and fragrant of spring shrubs. It keeps in flower for six or eight weeks.

March.—This gives us one of the best of the dozen in *Forsythia suspensa*, and also two of the oldest and most common, i.e., *Ribes sanguineum*—of this the variety *atro-sanguineum* is preferable to the type—and the Almond.

April.—The task now becomes more difficult. The following, however, ought always to be grown—*Spiraea arguta*, *Berberis stenophylla*, *Cytisus praecox*, and *Pyrus malus var. floribunda*.

May.—In this month we have *Rubus deliciosus*; *Philadelphus*, of which *Lemoinei var. erectus* is one of the best, and the *Lilac*; if one species only is to be named I vote for the free-flowering and graceful *Syringa persica*.

To make a baker's dozen, and not to omit a very great personal favourite genus, *Rhododendron*, evergreen and deciduous, for every garden where lime is absent.

Although in each genus mentioned there are a great many other species, perhaps of equal merit, I have mentioned those which at any rate deserve top place. All the plants mentioned do well almost

anywhere with the exception of the *Erica*, and in limestone districts this might be replaced by the May-flowering *Viburnum Opulus var. sterile*.—W. D.

HORTICULTURAL SUBJECTS.

FROM the report of a paper read by Mr. John Thomson, of Clovenfords, at a meeting in Galashiels, we take the following remarks. With special reference to exhibitions, the lecturer remarked that in connection with the displaying of exhibits at flower shows there seemed to be considerable room for improvement. Many things were set up in a very ungraceful and inartistic style, and were greatly handicapped thereby. At Shrewsbury Show, he noticed it stated, the display of Grapes was made more effective and more pleasant to behold by the artistic use of ornamental plants as surroundings. While the individual excellence of the exhibits had to be considered, general effect should not be forgotten. At many shows plants were set up on too high stages, and often the principal parts on view, in connection with table plants especially, were the flower pots. That should not be. It was neither justice to the plants, the exhibitors, nor the people who came to see. In showing *Chrysanthemums*, ornamental, graceful plants of moderate size ought to be interspersed, and the same remark applied to long tables of Apples and vegetable exhibits. He would like to see that subject freely discussed.

The prospects of horticulture in general seemed good at the present time. They had horticultural societies ever on the increase and additions being made to the number of horticultural papers, but it was still a great matter of regret that so many of the nobility and gentry were forced to reduce their gardening establishments, and in many cases sell the produce of their gardens. Huge additions were constantly being made to already huge horticultural establishments round London and elsewhere, the growth of Grapes and Tomatoes especially being tremendously increased.

After commenting on the benefit and importance of the people getting fruit fresh, Mr. Thomson again protested against the preferential railway rates granted to foreign produce, and noticed that preliminary meetings are being held in London in connection with the making of arrangements for this country's horticulturists being fitly represented at the exhibition in Paris in 1900. Whether it was, as some alleged, the fickleness of our climate which made us excel in horticulture or not, there could be no doubt that British horticulture could not be excelled if even equalled, and he trusted British horticulturists would be well represented at the exhibition. The speaker advocated gardeners supporting the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund, the objects of which he stated.

He saw no reason why much more of the fruit and vegetables consumed in this country should not be produced at home. In the nine months ending September last, they imported Potatoes to the value of £1,421,014. He considered that most of this money might have been kept at home and spent on Potatoes grown in our own country, and proceeded to notice the relations of employer and employed in the horticultural industry, and the increase in the number of ladies entering it, and then went into some details regarding the growing of various plants.

Mr. Thomson closed by remarks on questionable practices in connection with showing at competitions, and an incitation to horticulturists to use every endeavour to overcome the many difficulties they had to contend with, to cultivate an artistic taste, and to put forward even more energy and skill than in the past to insure the very best results.

MALAYAN RHODODENDRONS.

THE few species of *Rhododendron* which have been discovered in the Malay region have, in the hands of Messrs. Veitch of Chelsea, produced a large number of hybrids, a selection of which would be found worthy a place in any garden, for in addition to there being a wide range of brilliant colours, it is rarely they are without bloom, in fact they may almost be called perpetual flowers.

The species that have been instrumental in bringing about this race are *R. malayanum*, which has dull red flowers; *javanicum*, with orange flowers; *jasminiflorum*, with white; and multicolor having flowers of various hues. In addition to these there is *R. retusum*, a species from Java, having small scarlet flowers, which has not been greatly used by the hybridist but is well worth growing. They can be easily grown from cuttings, and flower well in small pots, some varieties being more ready to produce flowers than growth. Planted out in peaty soil they grow better than in pots, and flower quite as freely.

Being naturally small growing bushes they are better than many *Rhododendrons* for planting in small houses. A house with a minimum temperature of 50° is most suitable, though they can be grown in a house 5° lower.—KEWITZ.

IRIS KÄMPFERI.

I HAVE read Mr. J. S. Upex's note on page 447 of the *Journal of Horticulture* respecting *Iris Kämpferi*. It is not at all difficult to manage when grown under proper conditions. We have about 4000 plants here in the best of health. They have been planted in beds now five years. The beds are 4 feet wide, with an alley between, and arranged so that they can be flooded from the garden lake. The soil, which is good medium loam, was thoroughly trenched and heavily dressed with well decayed manure, and one row of plants planted in the centre of each bed. In spring, when they have started growing freely, the water is turned on, and they are constantly submerged until they show signs of ripening in the autumn, when the water is shut off for the winter. They are now huge clumps occupying the whole beds, and each clump produced this season from ten to twelve spikes, with flowers measuring 9 to 10 inches across. They make a fine show when in full flower, and are the admiration of everyone who sees them. To attempt to grow *Iris Kämpferi* in an ordinary herbaceous border is useless, but to anyone who can give them abundance of water during the growing season, there is no difficulty in having a fine show of large and interesting flowers.—A. McCULLOCH, *Newstead Abbey*.

I WAS interested in reading Mr. J. S. Upex's article on page 447, and I would like to mention the conditions under which we planted several hundred roots last autumn, and that have gone through the past summer without having been once watered. A large number of them flowered, and the fine growths they have made warrant me in assuming that they have so far been a success.

When once they are understood there seems to be no difficulty in their cultivation. It is not so much a matter of soil as of situation and aspect, and I might call attention to what I think is likely to be a drawback to complete success in the case of your correspondent, and that is the southern aspect he has given them. I am afraid that the flowers would be very likely to scorch, and not be lasting in a bright hot sun, notwithstanding the fact that the plants may be well cared for in watering.

To anyone who sees the flowers for the first time they come as a revelation, I might say a gorgeous revelation, rivalling, and even exceeding many of our indoor Orchids in their colourings and markings. It is not too much to say that I think this *Iris* has a great future before it. I feel sure there are many places and positions similar to our own in which it will grow to perfection, and I am induced to give a description, which may be helpful to some readers who have plants that are not doing as they should, as was the case with your correspondent, or others who may be contemplating their cultivation in the future.

I may state at the outset that we had the advantage of Miss Willmott's unrivalled knowledge in choosing a situation. The position selected was a low-lying boggy sort of swamp almost entirely surrounded by tall Beech and other trees, receiving only through the summer months a few hours' sun in the forenoon and at the middle of the day. The soil is somewhat black and peaty, and will produce nothing but a mass of common wild *Ranunculus*, Marsh Marigolds and Meadowsweet, common wild *Privet* and *Ribes*. I should imagine where the Meadowsweet is happy so will *Iris Kämpferi* be.

All that was done in the way of soil preparation was simply to clear away the rough weeds, dig out some informal beds, top-dress with fine soil to enable the trowel to work in planting the Irises; afterwards the beds were kept clear of weeds. The surroundings are of a semi-wild character, and a few rough moss-grown stones stand here and there about the beds for stepping upon in wet weather.

We are adding other features, such as *Primula japonica*, *P. rosca* in beds, and also several varieties of Bamboos, and making what has hitherto been an eyesore into a place of interest and beauty.—N. E., *Northumberland*.

[We are much obliged to our correspondents for their records of success in growing what might not inappropriately be termed this beautiful Swamp *Iris*. Both Miss Willmott and Mr. McCulloch evidently understand its nature and requirements. We have received from Japan a letter—and a remarkable one it is, as it contains 3000 words on three sheets of note paper, not written on one side only—from Mr. Peter Barr. He speaks of "whole fields of *Iris Kämpferi*." They are Rice fields, and says all the time the plants are growing they are in water. When done growing the water is drained off. He says in England they should be grown in beds that can be soaked with water while the plants are growing; after flowering have less water, and about August no water need be given. Mr. Barr says he has taken descriptions of 300 varieties of *I. Kämpferi*, and intends preparing full cultural directions. We may perhaps insert some portions of the letter referred to as it contains interesting matter, and we cannot call to mind any other person seventy-four years of age who could have penned so much information on such a small amount of paper.]

APPLE NOTES.

TWO MONMOUTHSHIRE APPLES.

ON page 448 were enumerated many varieties of Apples brought from Newport by Mr. J. Basham, of Bassaleg, and referring in the concluding portion of the report of the meeting of the Royal Horticultural Society to the fact that two of these had received awards of merit from the Fruit Committee. In this we were slightly in error, as *Cissy* was not so honoured. It is nevertheless an Apple possessing such desirable qualities that we give (fig. 86) a representation of a typical fruit. The second variety illustrated (fig. 87) is *Bassaleg Pippin*, and it is unquestionably an excellent Apple.

Taking first *Cissy*, it may be said at once that it is not a new variety in Monmouthshire, as it can be readily traced back for over a hundred years. It is a strikingly handsome fruit, rather over medium size and of symmetrical form. The skin is almost wholly covered with rich deep crimson, though on the shaded side the yellow of the ground shines through. There are over the whole surface numerous stripes and



FIG. 86.—APPLE CISSY.

splashes of darker crimson. The fruit is rather larger at the middle than elsewhere, tapering slightly to each end. The small eye is set in a shallow, somewhat irregular basin, and has broad segments which diverge at the tips. The stamens are median and the tube funnel shaped. The stalk is very short, scarcely more than a knob, and is deeply set in a round cavity. The flesh, white tinged with red, is soft and of first-rate flavour, though some of the specimens exhibited were a little past their best.

Bassaleg Pippin is a variety that must come to the front, as it will stand prominently for dessert, and is, in addition, most desirable for culinary purposes. It is above medium size and has several inconspicuous ridges. The very small closed eye is set in a moderately deep and plaited basin, while the very thick, short stalk is embedded in a deep green-lined cavity. The prevailing colour is a lively yellow, with bright scarlet splashed with crimson on the sun side and destitute of any trace of russet. The flesh, white faintly tinged with green, is crisp, juicy, sugary and very pleasant to the palate. Like *Cissy* it is an Apple of attractive appearance, which, if it is a good cropper, is likely to find favour with market as well as private growers. This, it will be understood, received an award of merit.

THE PRODUCE OF A COUNTY.

It is evident from the report of the meeting of the R.H.S. on November the 21st that those who were not present missed something of interest and instruction in not seeing the collection of Apples exhibited by Mr. J. Basham, Bassaleg, Monmouth. Not the least interesting section of the exhibit would be that portion made up of fruit obtained from different parts of the county, illustrating its character under varying conditions of soil and situation. I am not sure whether Mr. Basham has created a precedent by showing an exhibit of Apples representing a whole county at a R.H.S. meeting, but I do not remember anything of the kind being done before. It is certain, however, that considerable trouble must have been gone to, and thought little of, to do this, and it may suggest to others that the example is worth following in regard to the fruit production of other counties.

Apart from the general interest, there is an educational aspect of great value in the collecting and exhibiting of fruits of such importance as Apples from different parts of a county, with particulars of soil, aspect, and treatment. It seems as though we do not as yet thoroughly realise the capabilities of the country for the production of fruit, and such illustrations as the one under notice will do more to emphasise it than a great deal of writing. Few people perhaps treat Monmouth seriously as a fruit growing county, and yet Mr. Basham, a thoroughly practical man, points out, and also proves, that it possesses great possibilities for the production of Apples.

It may be the same with other counties, whose fruit growing capabilities are little known of, and it seems as though the R.H.S. authorities might make a point of encouraging this kind of thing, which would be a means of making its meetings still more interesting as well as of educational value to those who are engrossed in the important question of British fruit culture.—G. H. H.

KENTISH PIPPIN.

THERE appears to be quite a number of distinct Apples under this name, and by distinct I do not mean such distinction as some pretend to find between Beauty of Hants and Blenheim Pippin, but a totally different class of Apple. In many places in the west of England, what is locally termed Kentish Pippin is a very green-skinned, white-fleshed Apple, not unlike a Blenheim in general appearance, but of more acid flavour. At a local show recently I saw a little round Apple, something like Devonshire Quarrenden, labelled Kentish Pippin, and on expressing a doubt as to its being true, was told that the grower had grown and shown it for twenty years under this name. This argument was quite unanswerable. But there is another and a different variety with rather conical fruit, streaked with red, and with streaked flesh as well, that is so called. I should like to know what Kentish Pippin really is like, for I have never met with the Apple we used to grow in the west under any other name. It was a most useful Apple, keeping well into the new year, excellent for cooking and eating.—H. R. RICHARDS.

[Dr. Hogg thus describes Kentish Pippin in the "Fruit Manual":—"Fruit, medium size, 2½ inches broad, and 2½ inches high; conical and slightly angular. Skin, pale yellow, with brownish red next the sun, studded with specks, which are greenish on the shaded side, but yellowish next the sun. Eye, small, and partially open, set in a wide, shallow and plaited basin. Stalk, very short and fleshy, almost imbedded in a deep and wide cavity, which is smooth, or rarely marked with russet. Flesh, yellowish white, delicate, very juicy, with a sweet and briskly acid flavour. A culinary Apple of first-rate quality; in use from October to January."]

SPLITTING OF APPLES.

"W. G." page 442, alludes to this matter as "not a common occurrence." This statement rather surprises me, for, unfortunately, much of the produce of British Apple orchards is so scabbed and cracked as to be worthless for marketing. To this your correspondent does not allude, though one of the greatest defects of Apples from orchard trees, the scab fungus, *Cladosporium dendriticum*, often ruins one-half of the crops.

The splitting of Apples is not very common, and is confined to the clear-skinned, such as the Codlin, Hawthornden, and Harvey (yellow-skinned) races. The splitting sometimes occurs on the trees, especially on the late summer being wet after a period of drought. In such case the fruit would have the skin hardened by the heat and dry atmospheric conditions, and correspondingly retarded in swelling, then on a recurrence of growing weather when the fruit was almost ripe the moisture on the hardened skin and the flow of sap from within would conduce to splitting. Thus the splitting is clearly a case of endosmosis, and analogous to the bursting of Gooseberries at the nose in rainy weather, and the cracking of Melons grown hard and ripened in a moist confined atmosphere.

In the case of cracking after storing the exhaustion of the juices consequent on keeping dry to allow superfluous moisture to pass off, and then suddenly closing the store-room, as certainly results in the fruits absorbing moisture, as their tissues have become dry and possibly splitting.

Fuzzy Apples, or "fuze-balls," as I understand the term, is due to the irritation set up by the Apple maggot, *Trypeta pomonella*, which feeds indiscriminately through the pulp of the fruit, causing an abnormal growth of the cells in the large air spaces, so that the flesh is soft and dry, meal-like, and very poor in flavour. Such fruit sometimes split right from the woody tissue of the core; the cells there absorbing the moisture of the fruit, this readily abstracts from the atmosphere, especially when the greasy coating on the skin has been rubbed off, or this has hardened by dry conditions so as to crack. The insect confines its attentions to the soft-fleshed Apples, seldom or never attacking the firm-fleshed or even the late varieties, and beyond very faint tracks in the flesh, leaves little evidence of the work resulting in fuzzy Apples. It is only in warm and dry summers that the Apple maggot does much harm, and it is mostly confined to

certain trees or orchards, not travelling far. No spraying is of any use against this pest, as the insect deposits the eggs under the skin of the fruit, and the tiny maggots, whitish or greenish white, are not more than a quarter of an inch in length. But the maggots go into the ground to pupate, and may there be reached by a dressing of kaint in the late summer or early autumn, 15 cwt. per acre, or 10½ lbs. per rod.—G. ABBEY.

A GARDEN IN NEW ZEALAND.

ONE bright spring day we wended our way to Mr. M.—'s garden, hoping that we should not be too late for the Narcissi and other spring flowers that are grown in such quantities here. I put the gentleman's initial only, because he is one of those who love flowers for their own sake and not for show. We found we were rather late for the Narcissi, but some interesting and new varieties were still in flower. The flower gardens cover about ten acres, but part of this is taken up with ornamental trees, which help to provide shelter for the choice plants. The soil is good, and almost all hardy plants seem to thrive in it; perhaps this is due to the excellent cultivation received from the owner and his staff.

The collection of Narcissi comprises a great number of new and old varieties, and being special favourites are grown in quantities, as they should be grown, in clumps, left down for years. We could not fail to notice the masses of Hoop Petticoats (variety *Corbularia conspicua*) and single yellow Jonquils in clusters, containing, I suppose, hundreds of bulbs. The effect was truly fine, reminding one of a sheet of gold. Part of these were seedlings, and I was told that this variety of Hoop Petticoat comes almost or quite true from seed. Flowers of Mr. and Mrs. J. B. M. Camm were still out, and we noticed a few flowers of that superb variety Madame de Graaff also. Some other interesting varieties (because mostly new here) were Madam Plomp, Sophia, Capt. Nelson, Edith Barber, and Mabel Cowan. Space forbids a note on each, and most of your readers will, I suppose, know them.



FIG. 87.—APPLE BASSALEG PIPPIN.

What lovely varieties are the *Triandrus* section of this flower, and how seldom seen here; therefore I took more notice of a clump of *T. pulchellus*. This is, I might mention, very hard to acclimatise, and what we saw were seedlings. Speaking of seedlings Mr. M.— showed us several lots of his own raising, comprising some hundreds, several of which showed distinct variations.

The *Rhododendrons* were just past their best, but several late varieties were still fine. Roses were making fine growths, and promise a profusion of bloom for the coming season. How lovely the deciduous *Magnolias* of the *conspicua* type are when well flowered! Several of these and also *M. stellata* were at their best, and seemed a sheet of white. Oranges and Lemons are grown here (more for ornament than their fruit I believe), and bear, more or less, all the year round. Clematises, including that chaste native species *indivisa*, were opening their pretty flowers, and—but I have already taken up too much of your valuable space, I am afraid. Your readers must not think, however, that we have plenty of gardens here like the one we visited. It is one of our few really good big gardens.—WEYMOUTH.



RECENT WEATHER IN LONDON.—During the past few days the weather in the metropolis has changed materially. On Sunday morning there was a sharp frost, accompanied by a heavy fog, which lasted almost the whole of the day. On Monday morning early a few drops of rain fell, and in the evening again it rained heavily for some time. Tuesday was a thoroughly wet and unpleasant day, as was Wednesday up to the moment of going to press.

BIRTHDAY OF DEAN HOLE.—On Wednesday Dean Hole, of Rochester, celebrated his eightieth birthday, though the venerable octogenarian, with his fine physique and courtly bearing, might with reason be taken for not over threescore and ten. "The Dean has assuredly more than the average vigour of body pertaining to the latter term of years, and his friends declare that there is yet ten years' work before him. It is many years since his once widely-known book, "A Little Tour in Ireland," illustrated by John Leech, was first published. "A Book about Roses," one of his earliest works, is in its fifteenth edition, and "Our Garden," issued early this year, is now well on in its fifth thousand. It is just possible that we may get a third volume of Memories from the genial ecclesiastic, whose first curacy dates as far back as 1844.

OPEN AIR GRAPES.—If Reine Olga Grape, as shown by Mr. Will Taylor, of Hampton, be as easy to grow on open walls as the Sweet-water or Royal Muscadine, then should it present one of the very best modern Grapes for outdoor culture. But we have recently had some of the finest seasons for outdoor Grape production ever known, yet generally during the past most favourable one, outdoor Grapes were not good. If Mr. Taylor's Grape is good always, then, in spite of its red colour, it should be a most valuable one to plant for outdoor cropping. No man ever tried outdoor Grape culture more fully than did Clement Hoare at Shirley, on the sunny slopes of what was known as Hoare's Hill. I went to school for some time on the northern hill of the valley, and knew him and his place and work well. But it all ended in failure, because English seasons are so treacherous. Certainly we may have now some harder Grape than he had, but they are not too well known.—WANDERER.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.—The Council of the above Society held its usual monthly meeting at 61, Dawson Street, on Tuesday last, the 28th. The chair was occupied by Greenwood Pim, Esq. The Secretary, Mr. W. H. Hillyard, submitted a report of the winter Chrysanthemum show, which showed a decided falling off of the receipts due to the inclemency of the weather; also accounts were up for payment, the total of which amounted to £242; they were adopted, and cheques were ordered to be drawn. The Secretary announced that the Right Hon. Lord Iveagh had forwarded a cheque for £10 towards next year's prize money, for which the thanks of the Society were accorded. A gold medal was ordered to be given to Messrs. Ramsay and Sons, Ballsbridge, for their meritorious display of foliage and flowering plants, likewise a collection of floral designs, at the Chrysanthemum display. The usual annual meeting of the Society will be held in the Central Lecture Hall, Westmoreland Street, on Tuesday the 19th.—A. O'N.

BRISTOL GARDENERS' ASSOCIATION.—The fortnightly meeting was held on Thursday, November 30th, at St. John's Parish Room, Redland, Mr. Lock presiding over a large attendance. "Hardy Fruit" was the subject for discussion, introduced by Mr. Hockey, of Yatton. He stated that the cultivation of fruit was becoming more popular each year, though to enable British cultivators to successfully meet foreign competition our land laws required alteration. Dealing with the subject in detail, he gave clear instructions as to the soil and situation best suited to fruit culture, method of planting, pruning, and pests to which fruit trees were most liable. The directions given referred to the culture of Apples, Pears, Plums, Cherries, Currants, Gooseberries, Strawberries, and Raspberries. Mr. Hockey was heartily thanked for his lecture. A good discussion followed. Prizes for Potatoes (two dishes) were awarded Messrs. Taylor and Ross. Certificates of merit to Mr. Taylor for six well-grown Poinsettias, and to Mr. Clark for a plant of *Adiantum cuneatum*.

RETIREMENT OF MR. W. WHITTAKER.—We learn that Mr. W. Whittaker, who has for many years had charge of the gardens at Crewe Hall, Crewe, will retire at the end of the year. The very protracted period during which this well-known gardener has laboured is sufficient warrant for a thoroughly well-earned rest to be now taken.

DEATH OF MR. W. H. PROTHEROE.—It is with profound regret that we have to place on record the sudden death of Mr. W. H. Protheroe, who, as a senior member of the great auctioneering firm of Messrs. Protheroe & Morris, of Cheapside, was widely known and universally esteemed and respected. Though the deceased has not of late years enjoyed the best of health, the end during the early hours of Saturday morning came with painful suddenness. By his quiet unobtrusiveness Mr. Protheroe gained the respect of all horticulturists, by whom he was recognised as the foremost auctioneer. Not only was he a salesman but he was also an orchidist of no mean repute, as his seat on the Orchid Committee amply testifies. The deceased was in the fifty-fourth year of his age, and his loss will be felt throughout the United Kingdom and in those portions of the Continent to which he had been a visitor.

QUINCE JELLY.—Our versatile friend Mr. A. Pearson waxes eloquent over Medlar jelly, which he thinks equal to Guava jelly. My first acquaintance with this latter delicious product was made when store-keeping on board the old R.M.S. Magdalena when voyaging to the West Indies in 1853, and I well remember its delightful quality. But a year or two prior to that I had tasted Quince jelly made by an experienced cook, one that seemed to me to have been a product of the garden and kitchen combined, that has never been excelled for deliciousness by any sort of fruit. How is it that we never hear of Quince preserve? Have cooks forgotten how to make it? or is this fine and ornamental fruit so little grown, that its preserve has become a select luxury? I should like to see Quince, Medlar, and Apple jellies set before the Drill Hall Committee for testing as to which furnishes the richest flavoured preserve.—D.

INSECT PESTS IN 1899.—On page 450 "A. D." puts forth what sounds something like a new theory in regard to the effects of mild winters on insect pests which requires a little consideration. He speaks of Apple caterpillars having given little trouble, but here, I think, your correspondent must have been more fortunate than many of us, for in Kent the grub of the codlin moth has been most prolific, and several growers have informed me that they never remember more Apples falling through being eaten by this pest. Again, in the early part of the summer, Plums and Damsons were badly infested with aphid, to which may be largely attributed the failure of the latter crop. It would be interesting to know whether, under the name of Cabbage beetle, "A. D." also includes the Turnip flea, because everyone knows the havoc that has been caused by this pest, and what a difficult matter it was during the summer to bring Turnips to anything like perfection on account of it.—G.

POTATOES AT BIRMINGHAM.—I was much interested to read the brief report in the last issue of the Journal of the Potatoes shown at the Bingley Hall Exhibition last month. It is pleasant to find that the Potato classes are there so well kept up. I have not seen one of these shows for many years, but I did some time since occasionally accompany the former Secretary to the International Potato Show Committee, Mr. P. McKinley, to Birmingham, when he was exhibiting there with varied degrees of fortune. Then his chief antagonist was the Duke of Portland's steward; and Welbeck, I notice, still furnishes some exhibits. But the Potato classes were at Bingley Hall always very popular, and no doubt still continue to be. Mention of two Potatoes in the report attracted my attention. My own production The Dean occupies in it a prominent place, and it is still the finest and best of all the purple skinned Potatoes in commerce. It was raised fully twenty years—possibly much longer—by crossing the then popular Vicar of Laleham with pollen from Woodstock Kidney, with the result that some of the best Potatoes yet seen were produced by it. When some years ago samples of many varieties were subjected to the desicating process, The Dean gave more solid starchy matter than did any other variety. The other Potato noticed was Mr. Bresee. This one may be termed a beautiful beast, and whilst always giving large handsome tubers, the flesh is hard, flavourless, and worthless. I should like to see this variety debarred from appearance in all Potato competitions. We have in Ruby, Cardinal, Prizetaker, and Beauty of Hebron far superior coloured kidneys to Mr. Bresee so far as quality of flesh is concerned. Reading Russet still occupies the highest position as a red round. How pleasant would it be could we see a revival of the old International Potato Shows! They were so very interesting.—A. D.

— **ISLE OF WIGHT**—The monthly meeting of the Isle of Wight Horticultural Improvement Association was held at Newport on Saturday last. Dr. J. Groves, B.A., J.P., presided over a large attendance of members who were present to hear a paper read by Mr. W. Tribbick, F.R.H.S., Brook Gardens, on the "Cultivation of Muscat Grapes." The essayist, who is an expert in Grape culture, dealt exhaustively with the subject, and received a vote of thanks. The subsequent discussion was taken part in by the Chairman, Messrs. W. W. Heath, A. W. Kime, R. Bennett, and others. Several new members were elected at the close of a most successful meeting.—S. H.

— **JAM FOR OUR SOLDIERS**.—Amongst the provender for the troops in South Africa a particularly interesting item is the jam. This commodity was first given to the British troops in the Soudan expedition of 1884 and 1885, and it was afterwards supplied to the Ashanti expedition. It was reported on very favourably on each occasion, for not only was it regarded with favour by the troops, but it was found to be a distinctly healthy food. Jam has therefore taken its permanent place as one good thing among others for troops to fight on, and the quantities to be kept in South Africa as a four months' reserve amount to no fewer than 1,450,000 lbs., consigned in tins each containing a single pound.

— **BIRDS AND FRUIT BUDS**.—"R. M." asks on page 475 for advice about protecting fruit buds from the depredations of bullfinches. I find several other offenders, namely, chaffinches, bluecaps, sparrows; the latter most numerous. I have effectually protected my fruit buds for the past twenty years with black cotton: white will not do. When pruning commences in November start a small boy to follow with a bobbin of black cotton, giving the end of the cotton a couple of turns on one of the outer twigs, then pass on (allowing the bobbin to revolve in the partly closed palm of the hand), forming an almost invisible network of about 6-inch mesh. I allow this to remain on the year round. It helps to keep off the blackbirds in summer.—J. CAMPBELL, *Mickleover Manor Gardens, Derby*.

— **FRESH GRAPES FROM CANADA**.—There is now, says the "Daily Mail," every prospect of a cheap supply of fresh Grapes being put upon the English markets in future years during the autumn and winter months. Already the test shipments of these fruits, carried in refrigerated chambers, are on show at Manchester, and the trade expresses much satisfaction at the saleable nature of the fruit. There can be no doubt that this great development of the Canadian fruit trade in the United Kingdom will do much to extend the demand for cheap late Grapes, for hitherto the middle and working classes have had to depend upon the hard Spanish Almerias, which are sent into our ports packed in cork-dust in barrels weighing from 50lbs. to 60lbs. gross. These are the well-known green Grapes, so popular with grocers and dried fruit traders. The Canadian supply will insure ample quantities of Grapes, of far superior quality to the Almerias and at a reasonable price. When arrangements have been completed the English markets will be kept stocked with fresh Grapes put up in dainty little baskets, and thus render the storage of the Almeria Grapes by market men, to insure supplies after Christmas, unnecessary. Various other fruits are to be sent in time, and the French, Spanish, and Dutch shippers will find many of their fruits displaced by the superior products despatched from Canada.

— **THINNING APPLES**—THE CODLIN MOTH.—A Tompkins County (New York) correspondent of an American contemporary relates his experience this year in the Apple orchard. The Rhode Island Greening exceeded all in productiveness, and though sold at 10 cents per barrel less than red sorts, proved more profitable. Some old sorts, like Yellow Bellflower and Spitzenberg, gave full crops, but Baldwin did not. Two trees that were thinned last winter by removing branches and fruit buds, gave twice as much saleable fruit as those that were not thinned, and the labour did not cost much. He thinks it is easier and cheaper to thin in this way than after the fruit has set. Trees which had many limbs taken out, so as to leave them open to the sun, gave fruit more free from the Codlin moth caterpillar than those with close heads, and the fruit was larger. It is his idea that the moth prefers to lay her eggs in the shade, as Apples at the top and in open spaces were not so badly infested as in places where the branches were thick. The opinion of the American Cultivator is that she seeks shelter from the wind, but thinning the trees would let in both sun and wind. In that section the Apple buyers sort and pack the fruit themselves, and those who have sold to them do not believe that small, wormy, or defective fruit goes into the middle of the barrel, as they sometimes leave half the crop on the ground. The seconds go to the evaporators at 40 cents per 100 lbs. Most of the crops sold at 1 dol. 50 cents a barrel for fruit in piles in the orchard.

— **RE-ROOFING THE CRYSTAL PALACE**.—An important piece of work is in course of completion at the Crystal Palace, in the re-roofing of the great central transept. The immense iron and glass structure, designed by Sir Joseph Paxton, to house the Great Exhibition of 1851, was only intended for that temporary use, and its re-erection at Sydenham was wholly an afterthought. Probably the nave will next require attention. The work on the transept alone, now nearly completed, will use up a hundred tons of glass, and will cost about £12,000. The new roofs will be lighter than the old, and larger sheets of glass have been put in without the use of putty. Forty-nine inches was the extreme length to which glass manufacturers could go when the Crystal Palace was originally built, but it is now said that there is practically no limit. The total area of the glass in these roofs is nearly 15 acres.

— **SUSSEX WEATHER**.—The total rainfall at Abbots Leigh, Haywards Heath, for the past month was 55.5 inches, being 1.88 inch above the average. The heaviest fall was 1.96 inch on the 5th; rain fell on ten days. The maximum temperature was 61° on the 2nd; the minimum 30° on the 30th. Mean maximum 52.19°, mean minimum 39.28°, mean temperature 45.76°, which is 2.50° above the average. Since the first week, which was wet and stormy, it has been exceptionally fine, though not very bright. We had 7° frost on the morning of the 3rd inst.—R. I.

— **NOVEMBER WEATHER AT DOWLAIS**.—Rainfall 5.73 inches, which fell on nine days; greatest fall 1.56 inch on the 3rd and 1.75 inch on the 7th. Temperatures: Mean maximum 46.586°; highest reading 53° on the 4th, mean minimum 37.500°; lowest reading 22° on the 18th. Below freezing point on four nights. The prevailing direction of the wind was S.W. and W. There were twenty-three sunless days. After the first week the wind was very quiet, but was remarkable for dull days, with no sunshine and no rain from the 11th onwards, a very unusual thing for this district.—WM. MABBOTT.

— **NOVEMBER WEATHER AT HODSOCK PRIORY, WORKSOP**.—Mean temperature, 47°. Maximum in the screen, 63° on the 2nd; minimum in the screen, 5.1° on the 19th; on the grass, 18° on the 17th. Number of frosts in the shade, three; on the grass, fifteen. Sunshine, thirty-nine hours, or 15 per cent. of the possible duration; difference from average — 7. Rainfall, 1.21 inch; difference from average — 0.88. Rainy days, twelve; maximum fall, 0.29 inch on the 3rd. Rainfall from January 1st, 19.94 inches; difference from average. — 3.24 inches. The warmest November since 1881. Mean temperature the same as in October; a good deal of high wind, but little rain, especially during the latter half of the month.—J. MALLENDER.

— **NOVEMBER WEATHER AT BELVOIR CASTLE**.—The wind was in a westerly direction twenty-two days. The total rainfall was 1.46 inch, this fell on fifteen days, and is 0.94 inch below the average for the month; the greatest daily fall was 0.29 inch on the 7th. Barometer (corrected and reduced): highest reading 30.751 inches on the 17th at 9 A.M.; lowest, 29.289 inches on the 8th at 9 A.M. Thermometers: highest in the shade 62° on the 4th; lowest, 22° on the 19th. Mean of daily maxima, 51.73°; mean of daily minima, 40.20°, mean temperature of the month, 45.96°; lowest on the grass, 20° on the 19th; highest in the sun, 95° on the 1st. Mean temperature of the earth at 3 feet deep, 47.43°. Total sunshine, 66 hours 30 min. There were eight sunless days.—W. H. DIVERS.

METHEOLOGICAL OBSERVATIONS AT OHSWICK.

—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1899.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
November.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
and December.										
Sunday ..28	S.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday ..27	S.W.	44.6	44.1	53.4	42.9	—	46.9	48.1	50.6	40.5
Tuesday ..26	W.S.W.	48.9	47.0	54.8	42.9	—	46.4	48.3	50.4	29.2
Wednesday 25	N.E.	47.6	46.9	54.0	46.8	—	47.6	48.5	50.3	42.0
Thursday 24	N.N.W.	33.1	33.0	47.1	30.5	—	44.9	48.5	50.3	24.8
Friday .. 23	S.W.	29.8	29.6	47.9	28.0	—	42.9	47.6	50.3	23.6
Saturday 22	W.N.W.	48.2	44.9	53.2	32.5	0.27	43.8	46.9	50.2	31.1
		35.9	35.1	41.1	32.7	—	44.1	47.1	50.0	23.9
MEANS ..		41.2	39.9	50.2	36.6	Total 0.27	45.2	47.9	50.3	30.7

The weather during the week has been dull, with much fog and frost on five mornings.

MALMAISON CARNATIONS.

(Continued from page 306.)

At one time I was of the opinion that Malmaison Carnations were as hardy as border varieties, and consequently sent plants to various parts of the United Kingdom and Jersey, as well with the hope that they would thrive as to insure renewed energy and vigour for fresh stock. But there has been no favourable response. The only place from which information was gained is the West of Ireland, and the climate there appears to be too damp for them.

An idea presented itself that if Malmaisons were planted out with the border varieties we should obtain clean healthy stock. Early in the spring months a row was formed of Malmaisons, with such varieties of Miss A. Campbell, Countess, Duchess of Fife, Uriah Pike, Mrs. Reynolds Hole, Raby Castle, and others. The plants were turned out of 4-inch pots, and experienced from 9° to 14° of frost for several nights in succession. The Malmaisons looked sick, and we lost all hope of their doing any more good. It touched the border varieties, but not to the same extent, except those that had commenced growth in the frames before planting. When frost had passed away, and genial weather followed, we planted other Malmaisons with those previously inserted, and the later planted ones for a time certainly looked the better stock; but in spite of watering they did not grow as strongly as the early planted ones. This demonstrated the hardiness of Malmaison Carnations. Nothing can be said of the flowering, because the flower stems were removed.

We promptly concluded that this method would certainly result in strong, healthy, robust grass for layers, to add that strength and constitution to the plants grown indoors that is essential to the best results. The "grass," which was exceptional for strength and vigour, was layered early in the season. The layers rooted freely, and we were charmed by their appearance, and concluded the much desired object had been accomplished. For the sake of comparison it may be said that the growth of Princess of Wales outdoors was equally as strong as that of Mrs. E. Hambro in its strongest condition. The rooted plants were in due time lifted, potted, and treated the same as we have always treated our young stock, but with results the reverse of satisfactory. They barely began to root until they displayed unmistakable signs of disease, which increased to such an extent that the plants eventually found a resting-place on the rubbish heap. It is intended, however, though this plan proved a failure, to try another year a collection under old lights. The flower spikes will be removed to favour earlier layers, and the plants can be protected from heavy rains until they are lifted and established in pots. Time, of course, will decide whether this will answer or not.

Let us now return to the plants that have been layered in frames from inside grown stock until they are thoroughly rooted with good balls of soil attaching to them. These are most carefully lifted, ignoring any small or weakly layers, and are placed singly into perfectly clean and dry 4-inch pots. Crocking is very carefully done, one large piece being placed at the base, hollow side downwards, and this is covered with small pieces of a smaller size. Portions of broken pots, bricks, charcoal, cinders, or gravel will do, provided they are clean and certain to provide perfect drainage. Over the drainage should be placed a thin layer of moss, or the roughest portion of the compost. We have used the dyed French moss from the room and dinner table decorations, but it proved distinctly detrimental to the growth of the plants.

I have proved by experience that Malmaison Carnations are not so particular about soil as some people imagine. When struggling to grow Malmaisons we were often told that until loam from certain southern counties was procured success would never be ours. This, however, was too expensive, and we now know that where fair loam can be obtained it will answer the purpose very well. Bedfordshire sand was said to be another essential, but railway and cartage rendered this prohibitive. Estate sand only cost the digging and carting a short distance, and although fine and slightly yellow answers the purpose admirably.

The loam here is light and inclined to be sandy, but it varies according to the position on the estate from which it is obtained. That at present in use is very light and fibrous. It is over gravel, and if we pare more than 1½ inch deep we are on the gravel, into which none of the fibre enters. This is cut, if possible, while in an intermediate state for moisture, stacked until the grass is dead, and then it is fit for use. If we run short the grass is skinned off and then cut 1 inch deep for immediate use. With this loam clay, which is excellent here, is incorporated. Some of it is of a marly nature, and this is preferred to mix with the loam. A load or more is procured according to requirements, and if the weather is favourable it is spread to dry, when it is reduced to powder. In this condition it incorporates splendidly with the loam. When none in this state has been at command a little has been scattered on the surface after potting, to be washed down by subsequent waterings.

The loam and clay form three parts of the compost, the other part being sand, leaf mould (gathered from the woods naturally made, not stored to heat and have the fibre destroyed), with about one 6-inch potful of soot to each barrowload of loam. Artificial mixtures are occasionally used, but neither these nor natural manures are required at this stage, the soot being quite sufficient. When used for potting the compost should be in an intermediate state for moisture, as this allows water to be withheld for some days after potting, so that all damaged roots have a chance to heal, whereas when watered directly the damaged roots decay and the plants are a long time before they recover from the potting.

The soil must be pressed firmly in the pots, and whether they are placed in a house, pit, or the frame in which they have been layered, they should stand on a moisture-holding base, such as coal ashes, sand, cocoa-nut fibre refuse, or gravel. The syringe must be used amongst the pots once or twice daily according to the weather, not necessarily sprinkling the foliage, although this may be done occasionally if the weather prove hot and dry. The plants ought to be shaded from strong sun; a few hours during the day only may be necessary. As soon as they will stand exposure to full sunshine shading must be discontinued. For the first ten days or a fortnight they may be kept fairly close, until, in fact, root action has freely commenced, after which air should be admitted and increased until it can be given abundantly to maintain sturdy, healthy growth, and a robust constitution.—WM. BARDNEY, *Osmaston Manor, Derby.*

(To be continued.)

VEGETABLES FOR EXHIBITION AND HOME.*

THOUGH the culture of vegetables has ever been regarded in private establishments as of primary importance, it may safely be said that it has not previously had the prominence with which it is regarded at the present day. The times have changed, and as a natural consequence men and things, too, have altered. Years ago the production of splendid trained plants in pots was of paramount interest, as was, by other growers, the training of fruit trees on walls, and in both these cases such a standard excellence was attained to as is seldom reached nowadays. This, however, is a utilitarian age, and perhaps few regret the decadence of the trained specimen flowering plants; they have, as a matter of fact, given way to stock that from all points of view is infinitely more useful to the gardener. Whether the more haphazard method of training fruit trees that now largely prevails is an unmixed blessing is a moot point, and one which need not now be discussed. These two examples are adduced to illustrate the changes that the years must ever bring in their wake, and in vegetable culture we find a third.

Recognising, then, the immense interest and enthusiasm that have settled in vegetable culture, it cannot be a matter for surprise to see books more or less varied in character coming before the gardening public in an ever flowing stream. Some of these deal with special departments of the vegetable garden; while others pass the whole routine in view, and give sound advice in slightly different forms. Amongst the last to bid for public favour in the world of bookdom is Mr. Edwin Beckett, whose volume is now before us. The writer's qualifications as a cultivator of vegetables are written in the reports of shows during the past few years, and the curious may find in the pages of the gardening press such matter as will convince them that if Mr. Beckett can preach as well as he can practise, then must he be a very master.

The author's style of writing is terse, light, pleasing, yet convincing, and if in some cases his suggested details are, to many growers, impossible of adoption, simply from lack of materials and time, in other instances his immediate subject would have benefited from expansion. The chapter on the important subject of exhibiting, for example, is peculiarly interesting, and the details might well have been amplified, especially when we remember that the staging of vegetables has not yet, except, perhaps, with the very few, reached a high standard. The arrangement unquestionably has an important bearing on the results, and regular visitors at exhibitions will be able to re-echo the author's words when he says, "I have often noticed instances in which the awards would have been different had the exhibitors of the badly arranged displays bestowed more care and time upon them."

Mr. Beckett in this chapter carries the reader back to his first plunge in the exhibition arena with vegetables in London, and aspirants will do well to study the remarks which we give beneath.

I well remember the first time I staged vegetables at an exhibition of the Royal Horticultural Society, held at South Kensington, when some valuable prizes were offered. I had previously shown several times locally, and with much success, and naturally thought my produce was good

* "Vegetables for Exhibition and Home Consumption," by Edwin Beckett. London, Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Price 3s. 6d.

enough to win anywhere. I entered accordingly, and the lesson then taught me has not been forgotten. Arriving at South Kensington about forty minutes before the time fixed for the commencement of judging, I commenced to arrange my collection of twelve kinds. I was quite bewildered, for all the best exhibitors of the day were there in force, and to my surprise they had nearly completed staging, and the majority had arranged their collections and carefully covered them up with white paper. Six prizes were offered, and I was only fifth, as there was a strong competition, and it was some satisfaction to find that I had not been left out altogether. I can assure my readers I returned home a sadder but a wiser man. I well remember that Mr. Miles of Wycombe Abbey was a splendid first, having not only productions of the very best quality, but splendidly arranged. Few men ever exhibited in better form than he did, and to him I owe much of my success as an exhibitor of vegetables in after life. Most of my time during that afternoon was spent closely examining every detail connected with that exhibit, and the best of the others, determining to do better in the future if possible. The following year, in the same month, and with about the same exhibitors, I was placed third; but the next year, at the same place, I was rewarded with three first prizes, two in the summer and one in the autumn. I mention this not from egotism, but as an incentive to young exhibitors to thoroughly learn the object lessons given at competitive gatherings.

and tubers, and the mixture for planting them in. The ground should be thoroughly trenched during winter, and at the bottom of each trench a coating of about 4 inches of long stable litter should be given, leaving the surface rough and uneven, thus allowing the frost and winds to thoroughly pulverise the soil. Early in March the planting should be done. Prepare a mixture of half-decayed horse manure—that from an old Mushroom bed is preferable to any other—and half good leaf mould. This should all be passed through a sieve with half-inch mesh, and thoroughly mixed. A good trench should be taken out with the spade at least a foot in depth, and in this should be put about 6 inches of the mixture.

Assuming the sets to have been properly prepared, they should be carefully laid on the soil at a distance of 2 feet apart. Then fill up the trench with the same kind of mixture, and over this draw a little of the finest of the soil taken from the trench. Neatly rake over and make a mark down the centre. The distance between the rows should be 3 feet 6 inches; it will be found far better to thoroughly cultivate a few rows than to only half prepare a large number, as it will be found that a very large percentage will turn out fit for the exhibition stage. If horse manure cannot be readily obtained pure leaf soil will answer almost as well. Hoe the crops frequently and thoroughly, protecting them if necessary, and earth up as soon as ready. When the haulm has grown a moderate height and is likely to fall down it should be kept in an upright



FIG. 88.—AN ALDENHAM HOUSE ONION BED

From such general remarks the author passes to the consideration of the culture of all the principal vegetables, and it is here that in some instances the instructions are occasionally too minute for general convenience. But, then, it is for the reader to digest the information, and adapt all he can of it to his own circumstances. Instructors do not necessarily wish their pupils to, in all cases, strain to follow the precise "letter of the law," but to so imbibe the concrete principle as to enable them in varying phases to travel as closely to the line as may be. That the advice given is thoroughly sound no one will doubt for one moment, but in one or two cases equally satisfactory results will accrue to the cultivator who, perforce of circumstances, adopts simpler methods of procedure.

In order to give a clearer conception of the work, we cannot do better than select a portion of the remarks on Potatoes, choosing that portion which has special reference to the production of exhibition tubers. Relative to this phase of culture Mr. Beckett says:—

Only a favoured few who are fortunate enough to have an ideal Potato soil can hope to obtain such splendid specimens as are often seen on the show tables, unless some special means are taken to produce them. Here on a stiff, wet, London clay it is absolutely impossible to have well-shaped, clear Potatoes by ordinary methods of cultivation. Hence some special treatment must be given to them. I have made numerous experiments, and was much puzzled for many years before I could ensure satisfactory results. I tried the best varieties, different times and modes of planting, and many kinds of mixtures in the way of compost, but the result generally was disappointing. Notwithstanding, I was determined, if possible, to continue until I satisfied myself, and I can now say I have done so. I consider the principal points are an open sunny position on a well-drained piece of ground, early planting, allowing plenty of room between the rows

position by driving in a few stakes each side of the row and stretching two or three stout lines of string along. This is a very neat and efficient mode of keeping them in position, and I consider it of the utmost importance. As soon as the growth is completed and it is safe to lift the crop, cut off the tops and lift without delay, carefully storing as before advised.

In my opinion, Potatoes are generally exhibited much too large, but as long as exhibitors have to submit them to judges who favour large tubers, so long will big specimens continue to be staged. I consider a Potato should be of medium size, shallow eyed, free from scab or cracks, and the skin quite clear but not necessarily smooth, as a roughness in the skin generally denotes good cooking qualities. They should be washed thoroughly clean on the afternoon before the show in soap and water with a piece of soft sponge, and as soon as dry wrapped in clean soft white or brown paper. Care should be taken not to expose them to the air more than is necessary, or much of the fresh appearance will be lost. Six or nine is the number generally shown, and they should be presented as even in size as possible.

This excerpt is a fair example of the style of treatment of each individual crop. As a further sample we are able, by the courtesy of the publishers, to give (fig. 88) a photographic reproduction of one of the Aldenham House Onion beds, in which can be seen many bulbs that are well up to the exhibition standard. In conclusion we may heartily commend the work, which is admirably printed on good paper and effectively illustrated, to readers of the *Journal of Horticulture*. It will be read with interest by growers of vegetables, and diligent seekers after knowledge will find in its 216 pages many points, many suggestions, and many hints that cannot fail to redound to their benefit when they are embodied in their own future practice. ■



N.C.S. FLORAL COMMITTEE.

ON Tuesday the Floral Committee of the above Society held the last of its meetings for the present season at the Royal Aquarium, Mr. Thomas Bevan presiding. Exhibits were not numerous, and only two certificates were awarded—viz., to

J. R. Upton.—A Japanese of very large size, with long medium sized florets, which droop and are curly at the tips. The colour is deep golden yellow, being deeper on the inside. Shown by Mr. J. R. Kenyon.

Edith.—A single variety of good size, having rather broad flat florets, stiff stems, and a useful looking variety. The colour is deep rosy pink. Shown by Mr. Pagram.

N.C.S. ANNUAL DINNER.

THE annual dinner of the above Society was held on Wednesday, the 29th ult., at the Holborn Restaurant, Mr. Percy Waterer presiding. There was a large attendance of members and friends, many of whom were ladies. The time for speechmaking having arrived, it follows as a matter of course that the usual loyal toasts were duly honoured, and then the Chairman arose to give "The National Chrysanthemum Society." In the course of his remarks the Chairman alluded to the excellent relations that existed between the N.C.S. and other kindred associations abroad, and deplored the death of one of the Society's most distinguished Honorary Fellows, M. Henry de Vilmorin. He also reminded them of the forthcoming Chrysanthemum Show in Paris next year, when delegates from all parts of the world would be invited, and hoped the N.C.S. would not fail to be represented. Referring to the new medal, he said that after form and colour, gardeners appreciated weight, and they would have no cause to complain on this score, for he thought the new design a great improvement on the last. He also alluded to the vase class as a step in the right direction. He thought, too, that amateurs mostly began at the wrong end, and that they would do well to begin by growing decorative plants, for which he intended to offer a cup, to be competed for by amateurs who did not employ a gardener; and as the wives often helped their husbands by looking after the plants during the daytime, he would also offer one for competition by the amateurs' wives and sisters.

Mr. Fife proposed "The Donors of Special Prizes." An interesting part of the proceedings was the presentation of the National challenge trophy to Mr. W. H. Berry, representing the Portsmouth Society. The Chairman reminded the company that on a former occasion Mr. Berry had been chaffed, and that had drawn from him a promise that the Portsmouth Society would be to the front again, and he was pleased to find he had kept his word. Other cups and medals were presented to various leading prizewinners.

Mr. H. J. Jones replied on behalf of himself and other donors of special prizes, and again offered to provide the same prize next year for the vase class, which was enthusiastically received.

Mr. Berry replied on behalf of the Portsmouth Society, and suggested that now that the medallions were all filled up that the whole of the winning societies should have one grand competition next year for the final possession of the shield.

After other toasts were disposed of, and just before the close of the meeting, the Chairman announced that at the recent November show there were 3309 cut blooms staged in the various cut-bloom classes, which total was arrived at as under:—2241 Japanese, 618 incurved, 240 Anemone, 48 bunches Anemone Pompons, 84 bunches Pompons, 36 reflexed and 42 bunches singles (each bunch is counted as one variety).

SYNONYMOUS CHRYSANTHEMUMS.

Now that the season is well advanced, and the Chrysanthemum shows of 1899 are only pleasurable memories (or otherwise), it would not, I think, be out of place to test the feeling of growers generally as to the merits of the last list of synonymous varieties published by our National Chrysanthemum Society respecting T. Carrington and Australie, and Pride of Stokell and Mabel Kerslake.

After carefully watching T. Carrington and Australie at every stage, the conclusion is forced upon me that an error has been made. The growth of T. Carrington is quite distinct from Australie, and the blooms themselves are far more distinct than many varieties that are not honoured by the attentions of the N.C.S. The guard petals of T. Carrington come tubular in first and second crown blooms which alone should be sufficient to distinguish it from Australie, all the petals of which are flat, and more inclined to whorl than those of T. Carrington.

Mabel Kerslake is much brighter in colour than Pride of Stokell. I have been eagerly looking for someone to take up this matter. Perhaps what is everyone's business is nobody's in particular.—H. A. A.

CHRYSANTHEMUM CULTURE FOR BEGINNERS.

(Continued from page 477.)

IN May fully expose the plants to the open, selecting a sheltered corner where the cold easterly winds do not trouble them seriously. Watering must be strictly attended to, as the plants rapidly dry under the influence of sun and wind. Neat stakes must be placed to the plants at the time of potting, as upright growth is important in maintaining a good habit. The compost may be the same as at the last potting, with the addition of a small portion of decayed manure.

The final potting is the next stage, and should be carried out in June. The most suitable sized pots are, as a rule, 8 to 10 inches in diameter. They must be clean, dry and well drained, placing one large crock over the hole at the base and a few of lesser size upon it, finishing with a layer of fibrous turf, and upon this a sprinkling of soot. The compost is best prepared some weeks prior to use, and it should consist largely of fibrous turfy loam, but very little leaf soil. Four parts of old turves chopped up to one of leaf soil and the same quantity of horse manure with sand and wood ashes makes excellent potting material. To each bushel add a 6-inch potful of soot and the same of bonemeal. The whole ought to be well mixed and kept from being saturated with rain, but it must be moist when used for potting.

The plants require to be quite moist at the roots at the time of potting, but not wet. This is an important matter. If the ball of soil and roots is very dry it is evident that when potted, water applied will pass through the new soil only, leaving that fully occupied with roots as dry as before. On the other hand it is an error to have the soil too wet, but if the plants are watered the evening previously they will be in condition for potting next day. If properly moist the plants turn out readily from clean pots. Remove the drainage, place some compost in the pot, making it firm, on this fix the ball and spread out the loose roots. Introduce the soil in layers and make it firm with a potting stick until the ball is just covered, leaving, however, sufficient room for watering. At this potting it is best to fix the stakes to the plants at such a length as they are likely to be required by the variety, tying the main stem to it.

The plants must have an open, sunny position for the summer, and should be arranged on an ash bed, or stood on boards by the side of a walk where they can be conveniently attended to. If the weather is not too hot and drying water ought not to be needed for several days, but the plants may be syringed daily. After the plants have recommenced growth regular supplies must be given. In the course of the summer a wire ought to be fixed along the rows of plants and secured to a stake at each end. Tie the stakes attached to each plant to the wire, and this will prevent the plants being blown over by strong winds.

Chrysanthemums grow to a single stem only during the early stages, but a check to this main growth occurs between May and July. Some varieties do it earlier than others. The check to growth is in the shape of a bud appearing at the growing point, and this is known as the natural break. This bud is never of any use, and would not produce a good flower, hence it is discarded, and from the axils of the leaves below, growths push and increase the number of shoots. Growers usually allow three or four of these shoots to extend, and about August or early September each of them will form a crown bud which gives a good bloom. If this bud is discarded, as it may be, the growths which proceed from below it extend and eventually form second crowns. Further extension leads to terminal buds, which are known by having other flower buds round them, and no further stem growth is made.

When a good second crown bud is wanted to produce the flower the bud is watched for, and immediately it can be found the growths surrounding it and below it are gradually rubbed out, until the bud itself only remains. This process is termed "taking" or "securing" the buds. The terminal buds are also relieved of the smaller buds around them as soon as they can be conveniently, and without injury to the central bud, rubbed out.

Having secured the buds, the next important point is to preserve them from injury. Earwigs will spoil them as soon as anything, and if they are numerous about the plants traps must be laid to catch them. Lengths of hollow bean sticks, or small pots inverted over the top of the sticks, placing in each a little moss or hay, are good traps for the pests.

When the buds are secured a little stimulant may be given the plants, affording it in a weak state and of a varied character. Never give stimulants, however, when the plants are very dry. They must first be moistened with clear water. All growths below the flower buds, whether side growths or flower buds, should be rubbed out as they appear.

Towards the end of September, or early in October, the general

housing of the plants should take place. Accommodate them in a cool structure, but if they are to flower in it it ought to be heated for the purpose of drying up damp and the general welfare of the flowers.—E. D. S.

INCURVED CHRYSANTHEMUMS.

THIS once favoured section has undergone a great change within the last few years, and one must be an ardent admirer of them to speak well of the greater number of blooms staged at recent shows. Excellent specimens have been rare, the great majority being large, it is true, but rough and dull coloured. We do not think exhibitors take so much pains with them as in years gone by, and the introduction of many bad types has helped to make the section less interesting. Really, with few exceptions the incurved varieties of to-day are bad types of the Japanese, sorts that will not grow large enough to be classed among the latter.

Duchess of Fife as a white, and C. H. Curtis as a yellow, are excellent when well grown, and Madame Ferlat of the newer forms is a fine white, but Chrysanthemiste Bruant, Mdlle. Lucie Faure, Miss V. Foster, Miss D. Foster, Mrs. N. Molyneux, and The Egyptian, among many others, have taken away the refinement once seen in stands of incurved flowers. Lord Alcester, Empress of India, Princess of Wales and the like, which were the favoured varieties in many a winning stand, are now seldom seen; at least, in anything like good form.

The cause of this is not so much that the varieties are "worn out," as so many express, but we venture to think they are overgrown. If one would start next season with cuttings not rooted before the end of January and grown in a cool, steady manner in frames, subsequently restricted to pots not more than 9 inches in diameter, and nothing but good sound loam, rammed tightly, to grow in, we would guarantee capital results, provided, of course, that the ordinary details of culture be carried out. One other thing we would insist upon, and that is that "artificial" manures be safely placed under lock and key. Firm, well-ripened growth is needed, and an abundance of roots below.

Incurved Chrysanthemums will find a few admirers undoubtedly on account of their neatness as show flowers, and also because they are thought difficult to grow. This fact will remain an incentive to many gardeners in a wish to produce fine specimens. But as decorative types they are not to be compared to the Japanese, in which section all forms of flowers may be found, incurved ones indeed, far more beautiful than those classed as such. The little popularity that lingers around them would no doubt fade altogether were it not for the substantial prizes which may be won at the shows.

One thing to make incurved Chrysanthemums more attractive would be the introduction of better colours. The whites and yellows are rich, but other shades are far from being so, and the difficulties of hybridisers are great because this form of flower hides its richest shades, the outer side of the florets being a reflection of the inner only. Nature, therefore, must be turned inside out. It will require this, as well as more care in their culture to prevent the class going practically out of cultivation as the reflexed, the Anemone-flowered, and Pompons are already.—SPECIALIST.

SINGLE CHRYSANTHEMUMS.

FOR purposes of decoration the single varieties are charming. There is a grace and brightness about them which marks their adaptability for pot plants and for cutting, so as to give a welcome variety from the larger types of Chrysanthemums; and the singles are of easy culture. Cuttings are rooted from February to May to produce plants of various sizes. We top the growths once or twice to form bushy specimens, and allow every bud to develop into a flower. When this is done, long stems bearing a wealth of bloom may be obtained, and their spray-like branches are very effective; nor are the singles of tall growth, that is if a proper selection be made.

The way of exhibiting them at shows does not assist one in selecting, because they are staged in a most unnatural manner; and some of the finest for that purpose are not at all pretty on the plant. For example, the yellow variety, Admiral Sir T. Symonds, is a semi-double as grown, but with all except its outer row of florets taken away it is effective as a show flower, the colour being rich, and the centre or disc prominent.

Singles proper should produce one row of florets only, without manipulation. Such is Mary Anderson, a charming bluish white flower. Snow-wreath is a lovely white; Miss Rose has quite miniature blooms, but they come in such abundance, and the plant is so dwarf, that it is a variety of exceptional value as a pot plant; the colour is light pink. King of Siam is a good crimson. Besides the above-named, a few varieties that please us are Miss Annie Holden, a yellow form of Mary Anderson; Golden Star; Mrs. D. B. Crane, pretty cerise shade; Cannell's Gem, rosy purple; Rev. W. E. Ramfrey, purple red; Mr. A. Double, terra cotta; Scarlet Gem; Emily Wells, pink; Daisy Brett, pure white; Earlswood Beauty, creamy white; Miss Crissy, chocolate shade; Framfield Beauty, crimson; and Purity, white.—S.

GOLD CUP FOR CHRYSANTHEMUMS.

Now that Chrysanthemum societies are (almost at their wits' ends to provide sufficient variation and novelty in their prize lists to tempt exhibitors, and entice the public to patronise their show, I would like to suggest the offering of a gold cup. If some central body in London, Birmingham, York, Hull, or Edinburgh were bold enough to speculate that far, I forecast an entire success. As far as my memory serve me only one gold cup has ever been offered for Chrysanthemums; that was at Devizes, and was won by the late Mr. Wildsmith—a prize which he perhaps cherished more than any other amongst his long list of winnings.

I am aware this suggestion entails much outlay to make it worthy of the object, but we are used to big things nowadays, and when we consider that £100 has been offered in one class, what marvel is there if I suggest even a gold cup? Such a prize would insure exceptional competition, and that is what societies are continually seeking. Now that the time is approaching for the drawing up of prize schedules for the next year, I would commend this suggestion to enterprising committees.

Although the conditions of such a prize should be on a scale equal to the magnitude of the prize, it ought not to be difficult to draft a class that would meet with general approval; we cannot expect to get perfect unanimity even in Chrysanthemum devotees.—E. MOLYNEUX.

SMALL CHRYSANTHEMUM SHOWS.

WHATEVER may be the opinion of experts when the time arrives for reviewing the great exhibitions of 1899, it is evident that the popularity of the flower is on the increase among the working classes, and that more small Chrysanthemum shows are becoming annual institutions. Within a radius of only a few miles in my own district I know of half a dozen villages that this season have made their first attempt at a Chrysanthemum show, and in all cases, I believe, with an encouraging result. Older institutions of the kind still go on and have made satisfactory strides since their inauguration.

These shows, which are mostly in connection with local gardening societies, have also a vegetable section where produce in season is exhibited, very often for only small prizes, and occasionally on the understanding that prizes will depend on the financial success of the effort. The greatest interest, however, is centred in the Chrysanthemum, and when one sees the blooms that working men with only limited facilities can produce one realises what a truly democratic flower this is. Novelties are eagerly sought after by the amateur growers, who are well up to date in Chrysanthemum nomenclature as well as methods of culture and treatment of different varieties. Professionals in the district usually lend their aid in showing groups of plants and flowers which enhance the interest of the shows, and it is always pleasing to see gardeners doing what they can to help these infant efforts. It, perhaps, is not too much to say that the future of the Chrysanthemum depends largely on the interest taken in it by the masses.—G. H. H.

CHRYSANTHEMUMS IN A FRENCH PUBLIC PARK.

I HAVE for some years past made a point of visiting the annual Chrysanthemum shows in the metropolitan parks, but have hitherto never had the opportunity of seeing what could be done in this way in a continental one until early in the past month. At Lyons there is just outside the city a park called Tête d'Or, which is laid out in a much less formal way than some of ours here in London. This park contains the municipal greenhouses, the botanic gardens, and a fine winter garden, in which, at the time of my visit, Chrysanthemums formed a large portion of the display.

In the first house we entered there was no attempt at anything like the imposing displays of great sloping banks of blooms such as we see in the metropolitan parks. It was a low-pitched span-roof house with a great deal of decorative greenery in it, and here and there, at somewhat close intervals, were many a dwarf, well-flowered plant, of varieties with which the English cultivator is familiar. On an average they were neither better nor worse than what we see here, but the process of renewal is not adopted, and so it appears that when a flower begins to fade it still remains until quite done with. In this house the varieties were substantially the same as those with which home growers are familiar.

We accomplished this part while waiting for the main body of the Congress, when presently we noticed M. Gérard, the distinguished Lyons botanist, and Curator of the Botanic Gardens, conducting our fellow visitors towards the winter gardens. With him is M. Viger; M. Chatenay, the Secretary of the National Horticultural Society of France; M. Chiffot, the great French authority on entomology and the diseases of plants; M. Maxime de la Rocheterie, President of the French N.C.S.; M. Ph. Rivoire, the Secretary of the same Society; M. Chatanne, the Secretary of the Rhone Horticultural Society, and a host of other horticultural celebrities from all corners of the country.

We follow, and soon reach the fine glass structure called the

winter garden, which is really a Palm house, containing many fine specimens. It is prettily arranged inside with paths and running water, over which a rustic bridge is built with excellent effect. Here, among the cool and shadow of the Palms and Tree Ferns, we discover several effective groups of the popular autumn flower. One of them is a large diamond-shaped group, composed of very dwarf plants, but each carrying some very good sized blooms, not more perhaps than three or four on a plant. Many of the names remind us of days long ago, when we were younger in our experience of the golden flower. Others are flowers that we have never seen in England at all, and have never heard of. But here again we meet with many that we do know, all in good form, which help to make a very effective display. —C. H. P.

MISS ROSE.

THE single varieties of Chrysanthemums are very beautiful, and of great value as cut flowers, but they do not all make good shaped plants. The variety named is an exception to this rule, the plant having a very compact dwarf habit, and being very free-flowering. The flowers are of medium size, and in colour a pretty bright rose pink. Rooted in April and May fine plants in 6-inch pots are the result, and these, owing to their well-furnished appearance, are capital either for conservatory or room decoration. From the time the pots are filled with roots they may be watered occasionally with liquid manure, but they are not so gross feeding as the Japanese kinds. —H. R.

WESTMINSTER SHOW.—DECEMBER 5TH, 6TH, AND 7TH.

THE final exhibition of the National Chrysanthemum Society was held, as usual, at the Royal Aquarium, and proved to be a good show for the season, the open classes being well filled, while the trade exhibits made a show in themselves.

In the class for twenty-four Japanese not less than eighteen varieties there were six entries, most of which were strong for the season. Mr. R. Kenyon, gardener to A. F. Hills, Esq., Monkham, Woodford Green, was placed first with a capital exhibit. The varieties were Mrs. C. H. Payne, Mdlle. G. Debrie, J. R. Upton, M. Chenon de Leché, Joseph Chamberlain, Madame Carnot, Julia Scaramanga, a grand flower; R. H. Langdon, Mrs. Barkley, Graphic, Chas. Davis, Surpasse Amiral, Helen Shrimpton, Mrs. Mease, Wattleblossom, Matt. Hodgson, Nellie Pockett, Phœbus, Mr. G. Carpenter, Simplicity, and Etoile de Lyon. Mr. D. Williams, gardener to the Earl of Feversham, Helmsley, York, was second; while Mr. F. King, gardener to A. F. Perkins, Esq., Holmwood, Sarrey, was third.

In the class for twelve varieties, Japanese, distinct, there were five competitors. Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, was placed first. His blooms were Mrs. W. Mease, Silver King, Mrs. S. A. Compton, G. J. Warren, a grand flower; Master H. Tucker, Etoile de Lyon, President Bevan, Jos. Chamberlain, Phœbus, General Roberts, Lady Northcote, and Amiral Avellan. The second prize was awarded to Mr. J. Sandford, gardener to G. W. W. Ingle, Esq., North Finchley; and Mr. H. Weeks, gardener to Lady Byron, Thrumpton Hall, Derby, was third.

In the class for incurved blooms there were five entries, and Mr. F. King was awarded the premier position with a capital exhibit. The varieties were Chrysanthemiste Bruant, Miss Louise de Black, The Egyptian, Miss Phyllis Fowler, Bonnie Dundee, Mrs. J. Harvey, Mrs. J. Gardener, and C. B. Whitnall. Mr. T. Robinson, gardener to Mrs. Lawrence, Elsfeld House, Hollingbourne, Kent, was second; and Mr. W. Tebay, gardener to Mrs. Ryecroft, Sevenoaks, third.

In the class for twelve Japanese blooms, distinct, for single-handed gardeners, Mr. W. Perriu, gardener to C. W. Richardson, Esq., Sawbridgeworth, was first, and Mr. A. Hooney, gardener to G. H. Cox, Esq., East Barnet, was second.

In the open class for twelve bunches of Japanese, distinct, there were three entries, but Mr. R. Kenyon succeeded in carrying off the first prize in good style. The varieties employed were Secrétaire Fierens, Surpasse Amiral, Western King, Mr. G. W. Palmer, Mrs. W. H. Lees, Phœbus, Matt. Hodgson, Madeline Davis, Nellie Pockett, Vicar of Elthorne, and Mons. Fatzer. Mr. R. C. Notcutt was second, and Mr. W. Tipler, gardener to Miss Smith Dorrien, Aylesbury, third.

For six Japanese blooms, distinct, there were four entries, and the first prize was awarded to Mr. H. Perkins, gardener to the Hon. W. F. D. Smith, M.P., who staged Mrs. Mease, Mary Molyneux, G. J. Warren, Mrs. T. A. Compton, Australie, and a seedling in good form; closely followed by Mr. R. Kenyon with good blooms of Surpasse Amiral, J. R. Upton, and Phœbus; while Mr. J. Sandford brought up the rear. For six bunches of Japanese varieties, three blooms in a bunch, Mr. H. Perkins was a good winner; Mr. T. Tullett, gardener to G. Alexander, Esq., Brentwood, was second with excellent vases of Julia Scaramanga, Le Grand Dragon, and C. W. Richardson; and Mr. Thos. Robinson third. In the class for twenty-four bunches of Chrysanthemums, Mr. H. Perkins was the only exhibitor, but he was deservedly awarded the first prize for a first-rate display; the varieties were not named.

There were three entries for six bunches of small flowered singles; the first prize was awarded to Mr. T. Tullett, who had good bunches. Mr. G. W. Forbes, gardener to Madame Nicols, Regent House, Surbiton, was second with a pretty display, and Mr. W. C. Pagram, gardener to J. Courtenay, Esq., Weybridge, was a good third. For six bunches of single varieties, large flowering sorts, there were four competitors, and the

first prize was allotted to Mr. T. Tullett, for a beautiful display. Mr. G. W. Forbes was second; while Mr. W. C. Pagram made a good third.

Messrs. H. Cannell & Sons, Swanley, arranged a large table of Chrysanthemums, and some good plants of Begonia Gloire de Lorraine, perfectly covered with flowers; but the glory of the exhibit was centred in the wonderful display of Zonal Pelargoniums, which occupied one side of the entire exhibit; the bunches and the individual blooms were superb for the last month in the year. The most noteworthy varieties were The Birdar, Duchess of Marlborough, Cerise, Menalik, Pink Domino, Rudyard Kipling, Mrs. Simpson, Sir H. Irving, and Florence Miskin.

A grand exhibit was staged by Mr. H. J. Jones, Bycroft Nursery, Lewisham, chiefly consisting of huge vases filled with cut blooms, arranged with suitable autumnal foliage and various decorative plants, the front being filled with specimen flowers arranged in a bed of Maidenhair Fern. The chief varieties were H. J. Jones, Mrs. A. Tate, Nellie Pockett, Mona. Fatzer, Duchess of Fife, and Mrs. Coombs. Mr. Norman Davis, Framfield, also contributed an imposing display of cut blooms arranged in vases, the front being filled in with specimen flowers.

The feature of the show was undoubtedly the group of flowering and foliage plants arranged by Mr. J. Fleming, gardener to Sir H. Piggot, Bart., Slough, which consisted of Palms, Crotons, Ferns, Dracenas in the foliage section, with Poinsettias, Richardias, Chrysanthemums, Cyclamens, Ericas, Lily of the Valley, Begonia Gloire de Lorraine, Roman Hyacinths, Bouvardias, Carnations, Cyripediums, and Odontoglossums, the whole being beautifully arranged.

Mr. W. J. Godfrey, Exmouth, arranged a table of cut blooms, mostly of a decorative type. The variety Winter White was conspicuous, as were Madame Ed. Roger and a few of the spidery varieties. Mr. J. Agate, Havant, staged a box of Florence Molyneux in grand form. The variety has already been figured in these pages. Mr. Robert Owen, Maidenhead, arranged a display of Chrysanthemums arranged in vases, tastefully displayed with Crotons, Palms, and Ferns, also ten boxes of cut flowers, which included several promising seedlings.

AN IMPORTANT LAW CASE.

XL ALL VAPORISER.

MESSRS. JACOB WRENCH & SONS (Limited), London Bridge, were summoned last week before the Lord Mayor at the Mansion House by the Pharmaceutical Society for on November 7th unlawfully selling to Harry Moon a certain poison, to wit, a vegetable alkaloid called nicotine, in contravention of the Pharmacy Act, 1868.

Mr. Vaughan Williams, who appeared for the Pharmaceutical Society, said the article sold to Mr. Moon, who represented the Registrar of the Society, was a vaporiser to be used in greenhouses for the destruction of insect life on plants. One drop of the article put into the mouth of a rabbit killed it in twenty-one minutes. The label stated that the article should be kept in a safe place out of the reach of children.

Dr. Stevenson, analyst to the Home Office, said that he had analysed a bottle of the article, which was called the "XL All Vaporiser." It was a solution of nicotine and camphor in diluted alcohol. The bottle contained enough to kill thousands of people if it were swallowed.

In reply to the Lord Mayor, the witness said that three, four, or five drops, if taken, would be fatal to human life.

The Lord Mayor said he was satisfied that this was a poison within the meaning of the schedule.

Mr. Avery: It is an important question. Will you state a case?

The Lord Mayor: Certainly.

The Lord Mayor imposed a fine of £5 and £10 10s. costs on the first summons, and a nominal fine of 10s. on other two summonses, and the costs of the summonses. He hoped that in the meantime the sale of the compound would be stopped.

Mr. Avery: As far as my clients are concerned they have already discontinued it.

The Lord Mayor said he did not wish to prejudice the case, but he would suggest that the bottles sent out should be called in.

POISONOUS COMPOUNDS.

THE attack made on the popular XL Vaporiser, through Messrs. Wrench & Sons, of London Bridge, by the Pharmaceutical Society, with so much success, naturally leads to the question: What of all the diverse compounds used in gardening as insecticides may be sold as usual? Admitted that this vaporiser is, as shown by the published analysis, composed of powerful poisons, yet does it materially differ, one naturally wonders, from many other of similar compounds sold so plentifully by various firms, all being powerful insecticides. Certainly it is important for the public welfare that everyone using these compounds should be fully familiarised with their component parts, but it does not for one moment follow that these things will be the less dangerous because sold by a certificated chemist and not by an uncertificated person. All persons using XL All are aware of its properties, and seeing that it has been in use for several years in almost every garden, and has been obtainable almost anywhere, then is it difficult to understand—no known injury to any person using it having occurred—why action is thus taken so late in the day. Certainly in prosecuting Messrs. Wrench & Sons, who without doubt have acted quite innocently as hardly knowing that the compound was a dangerous poison, the chemists seem to have struck at an agent. It seems now as if not only must this vaporiser be sold only by certificated chemists, thus severely injuring the nursery and seed trade, but also must be all other essentially poisonous insecticides. —A. D.



MAXILLARIAS.

I WAS pleased to see one of your Orchid correspondents noticing these Orchids which, as he says, are very much neglected. The two species he names are useful and attractive, and there is quite a number of others that are equally unknown in the generality of collections and equally pretty. The lovely *M. Sanderiana* (fig. 89) hardly comes under this category, perhaps, but it even is not as much grown as it ought to be. Then there is the charming little *M. tenuifolia*, a plant that will not appeal to those who delight in showy kinds, but it has much beauty all the same, the bright crimson and gold flowers showing up effectively against the narrow deep green foliage.

The beautiful *M. grandiflora*, again, has few compeers among cool Orchids, yet it is looked down upon and seldom seen in good Orchid collections. The scent of this is delightful, and the ivory white blossoms with amethyst purple markings on the lip are charming in the extreme. Look at the old *M. picta* again, a plant that most orchidists despise. Familiarity, perhaps, made it appear a little contemptible to some of the older growers of Orchids in this country, but I am positive that many nowadays are not familiar enough with it and that its free flowering nature would recommend it to them. These are only a few of those worthy of growth, and one might easily mention many others did space permit.

All are of the easiest culture, and for that reason are neglected; what they need is a cool and very moist house with enough moisture at the roots while growing. Thrips—their worst insect enemy—are very uncomfortable in moist quarters, and if these are kept at bay success is assured, for all other cultural details are very simple. Good peat and moss in equal proportions is the best compost for small plants, but when they get larger use a little loam. The drainage must always be perfect and the compost fairly rough but thin.

HABENARIAS.

The stove species of *Habenaria* are now nearly or quite over, and those who grow them are apt to turn the pots on one side, and forget all about them for a time. This is one of the worst mistakes that can be made in their culture, for although the foliage and flowers are gone, the roots are not dead, and they still require a little sustenance. They are the nearest relatives among exotic species to our native Ladies' Tress Orchids, and these, of course, grow in cool moist woods, so are naturally kept in a moist state all the winter.

Without going so far as to advise this, I may say that the opposite plan of drying them entirely is equally wrong. What they like is to be potted in a very open description of compost, so that the roots are surrounded with lumps of charcoal and crocks, these being given a little water occasionally throughout the winter, and kept in a moist atmosphere. They thrive best in a hot moist house while growing, but the kinds with variegated foliage ought not to be syringed. There are many very beautiful plants in the genus, including *H. carnea*, a soft flesh-coloured flower; *H. militaris*; and the beautiful little *H. rhodocnilon*, perhaps the brightest coloured Orchid in cultivation.

ONCIDIUM PRÆTEXTUM.

This species has been known in cultivation since 1873, and is one of the best of the Brazilian kinds. From the oval pseudo-bulbs the spikes rise to a height of about a yard in strong plants, and these bear a large number of pale yellow blossoms, spotted and marked with a chestnut brown. Like other species from that neighbourhood, *O. prætextum* often grows well for a time after being imported, and then goes back, but occasionally one meets with good plants that have been cultivated for years. The most likely place for it to succeed is a light sunny part of the Cattleya house, the plants being exposed to as much sun as they will stand without scalding. Ample moisture supplies are needed while growing and flowering, much less sufficing afterwards.

GONGORA ATRO-PURPUREA.

This cannot be called a popular Orchid, though it possesses in a marked degree those attributes that bid for popularity. It is easily grown, cheap, and very free flowering; the blossoms, moreover, are

showy and sweetly scented. The latter occur on semi-pendulous racemes, and on plants of large size these are nearly always present; as fast as one set is over another appears. Under cultivation *G. atropurpurea* thrives best in the cool end of the Cattleya house, with as much sun as possible without actually injuring the foliage. Abundance of water should also be given, and under the circumstances the light green furrowed pseudo-bulbs swell up to their full size, and the roots push up well out horizontally in the manner characteristic of them, and a healthy sign. Equal parts of good peat and moss, with a little loam for the strongest plants, suit it well for compost, and the aspect of the spikes fits it well for basket culture.—H. R. R.

TECOMA (BIGNONIA) GRANDIFLORA.

WHAT recollections some of the older plants must possess to gardeners of an earlier generation, and one cropping up occasionally and figuring with present day varieties is sufficient to attract even now. Such a one is to be found in the above splendid plant, known more familiarly by its old title of "*Bignonia*" *grandiflora*. When exhibiting it as a single greenhouse plant some time ago I was more than astonished to find it nearly almost forgotten, one of the judges



FIG. 89.—MAXILLARIA SANDERIANA.

remarking that he had not seen it shown for more than thirty years. The public, too, were anxious to make inquiries as to its requirements, and I came away from the show more than satisfied. Yet this plant was introduced from China nearly a century ago.

The plant referred to was started in an intermediate temperature, the compost used for potting being best fibrous loam two parts, peat one part, with a little leaf mould and coarse silver sand. As growth advanced and days began to lengthen the plant was removed to a greenhouse temperature, and tied loosely round some neatly painted sticks. Shortly afterwards the buds, which are produced from the terminal shoots, were discernible, quickly developing, and opening tubular flowers of a rich orange-carlet, with slight yellow veins, quite equal to an *Allamanda*. On dull days, and if grown too shaded, I soon found out that the buds began to drop, but a moderately sunny part of the greenhouse soon put this right. Somewhat awkward to carry to the place of exhibition, it will on arrival form a useful addition, and most certainly carry weight in a collection of greenhouse plants.

If planted out the root run should be limited; this favours a steady and not too luxuriant growth. After going out of flower plants in pots may be stood in a sunny position outdoors until the end of summer to consolidate and ripen the wood, and lay the foundation for free flowering the following season. If planted indoors give abundance of air after flowering, being careful to avoid draughts when starting into growth the following season.—R. P. R.

BAHMIA.

REFERRING to the reply given on page 437 to a correspondent who desired information about Bahmia, Sir Charles Strickland writes:—"The eastern vegetable 'Bahmia' is the half-ripe pod of *Hibiscus esculentus*," we used to like it well. It has a peculiar mucilaginous consistence, and is often used stewed with meat like potatoes in an Irish stew. It is interesting to learn that it has been grown successfully out of doors in England. I brought seeds from Constantinople and tried to grow them in a warm house, but they came to nothing. I would try it again if I could get seed. I do not suppose that the plants will ever ripen seed in England."

We are much obliged for the information, and if "E. H." should be able to send us a few seeds we will gladly forward them to Sir Charles Strickland. In Dr. Hogg's "Vegetable Kingdom" we find the following notes on *Hibiscus esculentus*, and we reproduce them, as they will be of interest to at least some of our readers:—

"*Hibiscus esculentus* (*Abelmoschus esculentus*) is the *Ochro* or *Okro* of the West Indies, the *Gombard* or *Gombo* of France, the *Bandikai* of Madras, and the *Ramturai* and *Dhenroos* of Bengal. This plant is cultivated as a pot herb in the warm countries of Asia, Africa, and America; and also in some parts of the South of Europe and the Levant. The parts used are the long pyramidal young seed pods, gathered when green, which are filled with a large proportion of nutritious mucilage, and form a jelly with water. They are used for thickening soups, and when buttered and spiced make an excellent dish. The seeds are used in soups in the same way as we do barley, and they have also been recommended when roasted as a substitute for coffee. Besides as an ingredient in soups, the *Ochro* is thus employed: Before the pods have arrived at maturity, of whatever size they may be, they are first boiled in water, then dried a little, and allowed to cool, after which they are cut transversely into two equal parts, retaining the seeds. They are then placed in layers one over the other, and oil poured over them, and seasoned with pepper and salt. After being boiled they may also be eaten with the gravy of meat. These pods, which are from 2 to 6 inches long, are the chief ingredient in the celebrated *Pepper Pot* of the West Indies, which is considered a rich dish, the other ingredients being either flesh, or dried fish and capsaicums. As a medicine, *Ochro* is employed in all cases where emollients and lubricants are necessary. The bark of this plant abounds in fibre, which is of fine quality. H. (*Abelmoschus*) *bammia* is the African *Ochro*, which Dr. Royle seems to think does not differ materially from the preceding; but G. Don, who was acquainted with and had partaken of both species in their native situations, regards them as distinct. Speaking of the *Bammia*, he says:—"We have seen it cultivated with the *Okro*, or H. *esculentus*; it is called the *autumnal Okro*, and the young pods are used to make *Okro* soup. It differs from H. *esculentus*, in the leaves not being so deeply lobed, and in the pods being much longer."

APPLES AND GRAPES IN BUFFALO.

A VERY long and quite peculiar season is about to close. The climate is especially kind to us in Buffalo, chiefly on account of the influence of Lake Erie, from which the prevailing winds come. It is often the middle of November, as now, before the frosts come close to the lake shore, although this immunity does not extend much more than a mile from it, so that this season there have been severe frosts in the interior of the State as early as September, in some instances injuring the Grape crop. The last recorded frost in the spring, as I learn from the weather bureau, was on April 17th, which thus gives us practically seven months of full growing season.

The shore of Lake Erie, on the American side only, is just passing the novelty of an established centre of Grape growing, and the exact reason for the especial adaptability to this crop and the reason for not discovering it sooner are still unexplained. The most favoured region is about fifty miles in extent, all in sight of the lake. It is a comparatively poor gravelly soil, seldom producing other crops in satisfactory amount, and still largely covered with bushes and weeds where not planted with Vines. How the poorest soil in this section of the State should suddenly develop such capacity for Grape growing, and that practically without manure, is quite a wonder to us.

Reports from the Association of Grape Growers at Brocton, N.Y., the centre of this district, state that already 4500 cars of the fruit have been shipped, and that fully 5000 cars of first-class fruit would be marketed this season by the Association alone, which does not include a large amount of second-class, and the shipments of non-members of the Association, which is also large. Car loads run as high as 15 tons. The cold storage system is now extended to Grapes, so that the Catawba variety, our best keeping Grape, is now kept all winter in good condition. For general crop the old Concord holds its own, though the newer Niagara follows closely on.

Second-class Grapes and all that arrive in market in poor condition are now as a rule sold to wine makers at moderate prices. This new industry appears to be growing fast, and in a way hardly expected. Many private householders buy them, extract the juice without machinery, and put it into air-tight cans, where it is the basis of excellent summer drinks by merely adding sugar and water, fermentation not being allowed. Larger users run the Grapes through a cider press, and, especially if in the liquor trade, do not use the wine till it is fermented, always trying to keep it long enough to become somewhat ripened by age.

There has been a serious loss on the part of dealers in Apples this season. As often happens, the size of the crop was under-estimated, and more was paid early for fruit than could be realised. Then the warm autumn has ruined a great part of the poor-keeping fruit and hastened the ripening of the best winter sorts at least a month, so that an immense amount of it has been thrown on the market sooner than was expected, breaking down prices seriously. Apples that readily brought 2 dol. 50 cents a barrel at picking time now sell to dealers as low as 1 dol. 75 cents, and are a drug at that.

Buffalo is not rated as a great fruit centre, in spite of the vicinity of the Grape district on Lake Erie and the larger Grape, Peach, Apple and general fruit district on the southern shore of Lake Ontario. There is still a disposition to bring in the inferior fruit, sell it without name, and ship the better pickings to the seaboard, or abroad if it will bear the journey. On the other hand all fruit is comparatively cheap, for this is the northern limit of shipments from the south. A system of telegraphic direction of fruit in transit has been established of late, by which it can be reconsigned whenever it appears likely to arrive at a city that is for the day over-supplied and the price is consequently low. Buffalo being at the end of the routes, gets many remnants of good fruit and vegetables that must be sold here at the going price, and no alternative.

California fruit also comes in here, often to the serious embarrassment of the market, as the rate of freight is the same for all points east of the Mississippi River, an extreme breadth of 1200 miles. Sometimes this fruit meets such sharp home competition that it sells for barely enough to pay transportation, all of which is to the immediate interest of the consumer, no matter how badly it may demoralise the production of further crops.—J. C., Buffalo, N.Y.

LONDON GARDENS OVER FIFTY YEARS.

No. 16.

THE life of most people gives proof of the fact that we generally reap what we have sown, but it is also true that many reap what others have sown, for good or evil. It is quite certain that market gardeners about London suburbs, busy in raising as heavy and numerous crops as was possible, had no idea, years ago, that they were sowing seeds of disease, or even death, for future inhabitants of the localities. But there seems to be no reasonable doubt that such has often been the case. Houses have been run up since by the jerry builder with alarming rapidity. It used to be said of one, that he started upon a house at the beginning of a month, and when the next came he was going for his rent! This was an exaggeration, but the speed of building cheap houses led to scamping of much of the work, and a good foundation was seldom laid. Thousands on thousands of houses have been run up with scarcely any excavation of the soil; if it happened to be a former market garden, warmth and moisture in time evolved unwholesome gases. The earth, saturated by a succession of manures, should have been removed and a foundation made of dry brick rubbish, or some such material, better still, of concrete.

Nobody would think of holding market gardeners responsible for the results of building operations on land they had occupied, rightly enough; they got all the produce they could by stimulating growth on the methods formerly approved. Herein we perceive a great change during the fifty years. Animal and vegetable manures have been to a great extent superseded by new chemical compounds, more effective as manures, and, I should say, cheaper taken generally. Then, though most persons did not mind how vegetables were grown, provided they were fresh and moderate in price; there were some who did object to those raised by the heavy application of manure, especially animal. For instance, with sundry varieties of Cabbage, folks asserted it was quite perceptible in boiling them whether they had been grown near London under stimulus or raised more slowly at a distance from the metropolis. However that might be, I do think the manures formerly used could not have been healthful to the workers in the gardens, though, during the cholera epidemic fifty years ago, it was asserted that gardeners got off lightly, some said because many of them ate more fruit than other people.

It was quite a common sight about market gardens formerly, to see pits or trenches in which manure was put to decompose ere it was made use of; we do not often come upon these now, they were

not fragrant. Some of the farmers in my county believe a good deal in fish manure; when they can obtain a supply, we who may pass near the fields cannot fail to recognise the fact. There is actually one farm which is supposed to have got its name of Gilles or Gills from the remnants of fish that were conspicuous in its vicinity.

Probably the best manured London market gardens, or at least those manured for the longest time, are to be found in Bermondsey. This half-century has seen an immense increase of houses there, but, though greatly reduced, market gardens still remain, and quantities of vegetables are raised, mostly, I think, for the benefit of those on board vessels passing up and down the Thames, and the dwellers about that district. To any who have queried where remain the oldest gardens about our metropolis, I have pointed to Bermondsey, for this was the halting place of part of those emigrants from Holland who fled from their homes during the reign of Elizabeth. They straggled across Kent towards the metropolis, and some of them settled at Bermondsey, growing vegetables, which they took over London Bridge to find a ready sale for them in the City. Evidently "Jacob's Island" took name from one of these Dutchmen, as at one time the locality was much more watery than it is now, and considerable floods were not an uncommon occurrence.

During the increase of London houses between 1850 and 1880, we might have supposed it would have benefited the suburban market gardeners, giving them a good opportunity of selling the produce near at hand, but it did not usually work out that way; at least I know that in the extensive grounds of Gunter, at Brompton, the vegetables were all packed for the markets, though probably some of them travelled back again to the shops of the neighbourhood. Indeed a trouble arose to market gardeners out of the growing population, they had to be constantly on watch against depredation, particularly in the case of the choicer vegetables and fruits. Rather severe measures were sometimes taken; mantraps were going out, if not quite obsolete, when I first visited market gardens. Then of late years I believe the diminished market gardens were more infested with insects than formerly, because various species were attracted to them which had before that taken their quarters elsewhere. They found the mildness of the average London winter congenial to them, also, the sparrow and a few stragglers excepted, they escaped insectivorous birds.

Much as I regret the disappearance of goodly orchards, almost within the four-mile circle, which used to flourish, it is pleasant to know they have successors, rising up in many directions, at no great distance from the metropolis. Thus, amongst the home counties, Kent, which twenty-five years ago reported about 10,000 acres of orchard, has now raised the number to 24,500 acres. Some things over which the suburban gardeners took a good deal of trouble they have almost ceased to cultivate, Melons and Pines, for instance, because of the foreign arrivals at cheap rates.

Strawberries have long taken their departure beyond the metropolitan limits, at least as far as the cultivation in open ground goes; for several reasons it did not answer to grow them thus, but some are forced near London. I remember fields of them about Fulham or Hammersmith, an attraction to the small boys and slugs of the district; I fancy the soil did not exactly suit the plants. Mr. Dancer, at Chiswick, had them in rows, with Lettuces or Turnips between, and they were planted under fruit trees, seldom to advantage, getting insufficient air, perhaps. People who think 5s. or 6s. a pound dear for April and May Strawberries scarcely consider the time and care required to produce them. Some London gardeners have had thousands of plants in pots, raised from runners off the open ground; they were covered up through the winter till February, when they were shifted into houses. Vinerias have often been utilised for this purpose, but there is a chance of bringing in red spider; also Cucumber houses have been found convenient. But others have preferred the plan of forcing Strawberries in pits or frames, suitably heated, though the fruiting may be completed while under glass with the former. The plants set in frames have generally been young ones taken from between the rows during autumn.

Bush fruits have been an important item with many suburban nurserymen in the past, some Raspberries, but chiefly Red and Black Currants, White being seldom grown, and Gooseberries. A favourite practice was to plant them (the Raspberries excepted) in orchards, thus economising space; in fact, this is yet commonly done. That position exposes the bushes to sundry disasters, hence those are preferred which are divided from the roots, as one stem is liable to be broken. Some people have suggested that the bushes so situated are liable to insect foes which may fall from the trees above, but I do not think they would draw down the insects; some dislodged by the wind or rain might not re-ascend; however, it is easier to keep bushes clear of insects than trees. The caterpillars of Apples and Plums do not usually feed on Currants or Gooseberries; our familiar enemy of the latter shrub (*Abraxas grossulariata*) might transfer itself to fruit trees near, for its taste is extensively varied. The temperature of London is congenial to that species during hybernation, and we have more trouble with that than arises from the sawfly grub of the

Gooseberry. Both in orchards and other places Currants about London often have the pith mined by the Currant clearwing moth.

Plenty of air and light are, no doubt, good for the bushes, and I have occasionally seen in a nursery lines of these raised upon little mounds, the space around being filled up with flowers of low growth. Also in March I have noticed rows of bushes layered; supple branches are fastened down by pegs, they push out shoots at each joint, these are taken up for planting at the end of the autumn, though it was more usual to propagate Gooseberries and Currants by selecting cuttings at pruning time of about 1 foot in length, the ground in which they are inserted being deeply dug and well manured. Apparently the new pest of these bushes, and also of the Raspberry, has not made itself conspicuous about London. This is the Currant scale (*Leucanium vitis*) a very insidious and destructive insect; the spring brood of larvæ are active early in February. There are evidently two broods every season. After the winter pruning any scale-infested boughs should be gathered up and burnt, also some insect killer thrown round the stems to stop the return of any that have dropped.

Raspberries have never been a leading article with our market gardeners; the canes have sometimes been put in odd corners of nurseries, where I have found them full of aphids, indicating lack of nutrition. Red Antwerp was most usually grown. Twenty or thirty miles off, though, fields of Raspberries are conspicuous, and capital crops obtained from Carter's Prolific. There was a time when the gardens of South and West London made a show of Figs, but now only a few scattered venerable trees remain. Cherries again were always scarce in suburban orchards; they used to suffer from the spring frosts. Usually they planted dwarf standards amongst Apple and Pear trees, especially the Bigarreau.—J. R. S. C.

MARKET GARDENERS' DINNER.

IT is not often one meets with a representative body of market growers, for strange to say though they are numbered now by thousands in all parts of the kingdom, they seem completely isolated from the rest of the horticultural world, with perhaps a few notable exceptions. As a body they represent one of the busiest classes in the industrial world, so much so it seems, that they are rarely heard of except in their own districts or in the markets. Probably few readers have ever heard of the Market Gardeners, Nurserymen and Farmers' Association, yet the Society began its existence early in the present century, at a period, remarked one of the speakers, "when the growing industry was confined to a few miles around London, and when they were all outdoor growers." On the occasion of the annual dinner held at the Holborn Restaurant on November 30th fully sixty members and their friends from all parts of the country sat down to an excellent dinner. Mr. W. Poupart, the President, occupying the chair. The loyal toasts were received with unusual enthusiasm.

The toast of the evening was proposed by Mr. R. Piper, of Worthing, and it would have been difficult to place it in abler hands. In the course of a capital speech he alluded to the work of the Association in the past, such as obtaining for growers throughout the country a reduction of the general district rate under the Public Health Act of 1875 to one-fourth the sum exacted from market gardeners. But when the speaker reached the last battle the Association had with the law regarding the Agricultural Relief Act, he warmed considerably to his work, going clearly through all the stages of that well known case, as he could do with authority, for he attended the various sittings through every court. On reaching the House of Lords, the speaker relieved his mind of his opinion of those dignified law lords who delivered their final judgment. It is not necessary to repeat it here, beyond saying it was extremely forcible. This appeared to please the market men immensely. Mr. Piper then urged those present to extend the membership of the Association, so that their numbers might have greater weight when next they were compelled to enter the law courts.

Mr. W. Poupart, in replying for the Association, said there were many matters that were brought before them, that were settled without going to law, and as the industry of the market gardeners increased so much they found the work of looking after and protecting the trade increasing also. In the early days of their history the market growers were a small body, consequently the membership was small also, but he now urged those present to endeavour by personal effort to increase their membership, so that the whole trade would be fully represented. He also reminded them that the Agricultural Relief Act was only a five years bill, and he had no doubt that if they were strong enough, they would be able to see that justice was done to the horticultural trades, as well as those of the lower branch, for he had an assurance from Mr. Chaplin through his member at the time the Bill was before the House, that they would come under the benefits of the Act. Alas! now the lawyers had decided it was not so, and they must pay until such time that they were able to alter it.

Messrs. Garcia, Munro, Steel and Taylor in the course of their replies to various toasts all alluded to the vast expansion of the trade, Mr. Garcia playfully remarking that in spite of their taxation, most of the market men appeared to be pretty comfortable, a remark that caused great laughter. The speeches were interspersed with well rendered songs, so that a pleasant evening was spent.—J. B. R.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—DECEMBER 5TH.

THE exhibition held on Tuesday last at the Drill Hall was comparatively small, as might be expected at this period of the year. The bulk of the exhibits came within the Floral Committee's section. Begonia Gloire de Lorraine forming a large proportion of the display. Chrysanthemums would probably have been more numerous but for the confiction with the last show of the National Chrysanthemum Society. Orchids and fruit were not particularly numerous.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with the Rev. W. Wilks and Messrs. W. Poupart, J. H. Veitch, W. Pope, A. Dean, S. Mortimer, W. Bates, C. Herrin, G. Wythes, F. Q. Lane, J. Smith, G. Reynolds, J. Willard, H. Balderson, and J. Cheal.

There were only about half a dozen exhibits submitted to the Fruit Committee, and amongst these Messrs. Sutton & Sons' small display of Tomato Winter Beauty was one of the most conspicuous. The fruits, shown in three boxes, were of splendid colour, medium size, and good shape. A plant was also contributed showing the cropping properties, which for the time of the year are excellent. Messrs. Watkins and Simpson, Exeter Street, Strand, sent examples of the common Salsafy, and also of a variety named Mammoth. Mr. J. Ryder, gardener to the Countess of Limerick, Hawkawick, St. Albans, exhibited three varieties of Grapes, including Gros Colman, Mrs. Pearson, and Black Alicante. The bunches were all of good shape and the berries well finished (silver Banksian medal). Mr. R. C. Notcutt sent from Ipswich Winter Orange stewing Pear, while Mr. F. Bradley sent from Peterborough Apple King of the Hollow.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Drury, H. B. May, E. Molyneux, J. Hudson, J. Jennings, T. Peed, C. J. Salter, J. D. Pawle, C. E. Pearson, N. F. Barnes, G. Gordon, C. E. Shea, H. J. Jones, E. H. Jenkins, E. Beckett, G. Paul, and C. Jeffries.

Messrs. W. Clibran & Son, Altrincham, were represented by a collection of single Chrysanthemums. Considering the decorative value of this type of flower they are far too seldom seen, and the stand shown received particular attention from the not too numerous visitors. Practically all colours were included, and amongst the best were Lord Methuen, Miss B. Moffatt, Miss Norah, Nora Davis, Oldfield Surprise, Amy Fletcher and Oldfield Gorn (silver Banksian medal). Messrs. W. Wells & Co., Ltd., Red Hill, staged a group of Chrysanthemums, in which singles and others were employed, Mrs. C. Bown, May Jeal, Earlswood Beauty, Admiral Sir T. Symonds and Cheveux d'Or were particularly attractive (silver Banksian medal).

Messrs. J. Peed & Sons, Norwood, arranged a group of small plants of Begonia Gloire de Lorraine interspersed with Ferns. Messrs. B. S. Williams & Son, Upper Holloway, also staged B. Gloire de Lorraine, but the plants were larger than the foregoing, and carried a greater number of flowers. Messrs. H. Low & Co., Bush Hill Park, sent a collection of Cyclamens in which the well-grown plants were carrying splendid flowers and foliage. Practically all colours were included in the stand (silver Flora medal). Messrs. T. Cripps & Son, Tunbridge Wells, showed a group of well flowered Bouvardias, but the day was so dull that their proper beauty could scarcely be appreciated (bronze Banksian medal).

Mr. D. Allan, gardener to Lady Ashburton, Alresford, Hants, sent a collection of Violets Marie Louise. The flowers were large and delightfully fragrant. Messrs. J. Veitch & Sons, Chelsea, showed a box of flowers of their hybrid Rhododendrons. Mr. J. Russell, Richmond, occupied the centre of the hall with a splendid collection of Conifers. The same firm contributed also a fine group of Yuccas (silver-gilt Flora medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de Barri Crawshaw, H. Little, A. H. Smee, W. H. White, H. J. Chapman, W. H. Young, E. Hill, J. Jaques, T. W. Bond, C. Winn, J. G. Fowler, and T. B. Haywood.

Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, had a very fine collection of Calanthes. The plants were carrying splendid spikes of beautifully coloured flowers. C. Veitchi splendens, Victoria Regina, burfordiense, Veitchi lactea, bella, versicolor, Bryan, revertens, nivea, wylamense, and amabilis were noticed. Mr. White showed also a number of other Orchids in which Cypripediums formed the most conspicuous feature (silver Flora medal). Messrs. F. Sander & Co., St. Albans, contributed a small collection of Orchids.

Mr. H. Downing, gardener to the Hon. Mrs. Albert Brassey, Heythrop Park, Chipping Norton, showed Calanthes carrying superb spikes of flowers. Mons. L. Linden showed a small group of Orchids mainly comprising Odontoglossums and Oncidiuma. There were several other exhibitors of one or two Orchids, including the Right Hon. Joseph Chamberlain, Birmingham, Lord Rothschild, and Mr. H. J. Chapman.

CERTIFICATES AND AWARDS OF MERIT.

Cypripedium Hera var. *Euryades*.—This is a most handsome flower. The varnished petals are green profusely spotted with brown, which colour practically obscures the ground on the upper portion. The pouch is of medium size and claret in colour. The dorsal sepal is superb. The basal colour is white, suffused with green at the base, and with rose at the upper margins. It has numerous large and small brown spots (first-class certificate).

Cattleya Maggie Raphael (H. S. Leon).—This is a hybrid from C. aurea and C. Trianae. It is a superb flower. The sepals are deep yellow, as are the broad petals, but the latter are attractively veined and flushed with orange crimson. The lip is very deep, velvety crimson, slightly paler on the front lobe and at the margins (first-class certificate).

Chrysanthemum Madame R. Cadbury (H. Weeks).—A creamy white Japanese with flat, very long, broad florets (award of merit).

Chrysanthemum Oscar (W. Clibran & Son).—A single variety of no particular merit; the colour is reddish terra-cotta (award of merit).

Cymbidium longifolium (J. S. Moss).—A comparatively well known plant, producing flowers with brown and green striped sepals and petals, and a pure white lip occasionally touched with striped red. The side lobes are striped with brown (award of merit).

Oncidium Forbesi moorebeckiense (L. Linden).—A superb variety. The immense lip is shining brown with a yellow fringe, this being also the colour of the petals (award of merit).

Oncidium varicosum Lindeni (L. Linden).—An attractive form. The very large lip is of a peculiarly rich shade of yellow (award of merit).

Sophran-Cattleya Chamberlainianum triumphans (J. Smith).—This bigener is from a cross between Cattleya Harrisoniae and Sophranitis grandiflora. The flower is a very rich crimson red, with slightly deeper venations. The maroon lip is crimson on the front lobe, and yellow within (award of merit).



FRUIT FORCING.

Cucumbers.—Air must be admitted very carefully, affording a little, however, when a favourable opportunity offers. In bright weather, and the air is sharp, turn the top heat off when the sun is powerful and likely to raise the temperature above 80°. In such weather damp the house in the morning and afternoon, closing about midday, or 1 P.M., but do not wet the fruit. Water will be required at the roots once or twice a week, and it should be equal in temperature to the mean of the house. A temperature of 60° to 65° at night and 70° to 75° by day artificially is suitable. The winter fruiting plants from the August sowing and planted out in September, have grown to nearly the extent of the trellis, and are showing plenty of fruit. Only a few for Christmas and the new year should be allowed to remain, and that on vigorous plants. Attend frequently to stopping and thinning, also tying the shoots, avoiding overcrowding as one of the greatest of evils. Remove bad or decayed leaves.

Peaches and Nectarines.—*Earliest Houses.*—The house having been closed about the middle of last month fire heat should now be applied. The house ought to be freely ventilated even at night in mild weather, only using fire heat to exclude frost until the buds commence swelling, then 40° to 45° is quite high enough at night, turning on the heat in the morning so as to raise and maintain to 50° by day, with free ventilation between 50° and 55°, and full at and above the latter temperature, rising on bright days to 65°. Reduce the ventilation gradually and close between 50° and 55°, leaving a little air on at the top of the house. Syringe the trees and every other surface morning and afternoon until the blossoms are showing colour. When the anthers show in the flowers cease syringing the trees, but afford moderate moisture by damping the paths in the morning and early afternoon. Avoid a moist, close atmosphere, with a high temperature at night. Make sure that there is no deficiency of moisture in the inside borders. If necessary, supply water or liquid manure at the mean temperature of the house.

Second Early Forced House.—This structure is started at the new year, from which a supply of fruit is to be gathered in May and early in June. Fruit can be had earlier when the varieties consist of Alexandra, Waterloo and other very early Peaches, but these have not the quality, or even the appearance of such varieties as Hale's Early, Stirling Castle, Royal George and Dymond Peaches, while Early Rivers, Lord Napier and Stanwick Elruge leave nothing to be desired as regards early Nectarines. The house should be closed about the middle of this month; fire heat is only employed to exclude frost, the trees being sprinkled in the morning and afternoon, allowing them to become fairly dry before night. Keeping the trees constantly dripping with moisture, especially at night, has an enfeebling tendency, and promotes wood bud rather than blossom bud development. The temperature should not be allowed to exceed 50° without full ventilation. Thoroughly moisten inside borders down to the drainage, protect the outside ones with dry leaves or bracken and a little litter on the top.

Succession Houses.—Push forward the pruning of the trees, dressing them and cleansing the house. If the houses have fixed roof-lights, ventilate to the fullest extent in all but very severe weather. When movable it is much the better plan to remove them and expose the trees to the elements for the winter. The frosts make an end of brown scale, and the trees are not alternately excited and retarded as they are under fixed roofs. Even the latest and unheated houses should be treated in that way.

Strawberries in Pots.—Introduce a number of the earliest plants—those with well developed crowns, and having been rested some time. These should be of the earliest varieties, such as La Grosse Sucrée, Royal Sovereign, and Vicomtesse Hericart de Thury. They ought to be given a position close to the glass in a light, airy, well-heated house, facing the south. The old dead leaves only should be removed, the surface of the soil freed from moss and other matter, the drainage seen to

and if need be rectified, washing the pots quite clean, and given a top-dressing of some approved fertiliser, about half a teaspoonful if a powerful one, or a full measure if not highly concentrated, to each pot. This may be supplemented, if there be space in the pots, with a little fresh, rich soil.

A temperature of 50° by artificial means is ample to begin with, ventilating freely at 55°, and not allowing an advance to or above 65° without full ventilation. Sprinkle the plants in the morning and early afternoon of bright days, omitting it if dull, but a genial atmosphere should be maintained by damping the floor and walls occasionally. Water will only be required at the roots to keep the soil moist, a very wet condition being quite as inimical as allowing the plants to suffer through want of water.

HARDY FRUIT GARDEN.

Winter Pruning Fruit Trees.—The operations connected with the winter pruning of fruit trees and bushes should be carried out on every favourable opportunity, hence it is necessary to make an early commencement, because after the leaves have fallen there is nothing gained by allowing superfluous wood to remain on the trees, though Apricots, Peaches, and Nectarines on walls may with advantage be left until February. Gooseberries, too, are frequently left unpruned until the same month if they are unusually liable to have their shoots denuded of buds by birds. Rank and overgrown bushes, however, ought to have a preliminary reduction of some of the most crowded parts now, and a final thinning-out later.

Pyramid and Bush Trees.—If the branches of these forms of trees were properly originated at distances sufficiently wide to prevent overcrowding when fully furnished with spurs, there will be no branch pruning to carry out. It invariably happens, however, that too many main branches are encouraged from the first, and when the time arrives at which the superfluous extensions can be dispensed with, the opportunity is often lost, because the trees being *leadless* look sufficiently thin. The principal branches must not be originated closer than a foot. This is not too much space to allow of the spurs extending, and in some cases more room ought to be given. The thinning-out of the branches ought to be attended to first, next thin out the clumps of spurs, and shorten back any that are elongated. The side shoots or current year's growths may be shortened to two buds, the shoots having previously been summer pruned to the sixth leaf. The leading shoot on each branch may also be shortened, leaving it a foot in length if extension of the branch is required. If not, prune back closely. Gross or sappy shoots which may be found issuing from the main branches in any part of the trees must be cut out entirely.

Cordon Trees.—The chief winter pruning consists in managing the side shoots, and not overcrowding the branches with spurs. It is impossible to crowd the branches of cordon trees if not planted too closely in the first instance. If any are found with branches closer together than a foot, every other one should be taken out. Check the elongation of spurs so as to keep the fruit buds near to the main branch. Shorten the side growths to two buds, and only shorten the leader when the full extent of space is filled. When the trees exhibit signs of exuberant growth which cannot be checked by summer and winter pruning, the best plan is to lift and root-prune.

Open Bush Trees.—This form of fruit tree is invariably more fruitful than restricted trees, as they are not subjected to a formal style of training, yet they are not allowed to grow with unrestrained freedom. Branches must be taken out whenever they are growing too near each other so that sun and air are prevented reaching the buds and leaves in summer. This is the chief form of pruning these trees, namely thinning out the branches. If the trees are maintained in this condition fruit buds will form readily, and there will be few side shoots extending. These may be shortened back in the usual way, in order that they may form spurs.

Standard Trees.—In standard and half-standard trees there should be no shortening of growths whatever practised. All branches removed must be taken off close to the stem from which they originate, and attention paid the following season in rubbing or cutting out any growths which may spring from the parts where the cutting has been done, because if this is allowed it may choke the trees again with undesirable growth. The best time to thin out standard trees is before the leaves fall, as it is then more readily seen which are the proper growths to remove. However, much good results from winter pruning.

Wall Trees.—Exhausted or worn-out branches should be cut out of Apricots, Peaches and Nectarines. Any other fan-trained trees growing on walls may be pruned and regulated, laying in young shoots to fill up vacancies. Horizontally trained Pear trees on walls must have the branches thinned if they happen to be so thickly placed that spurs overshadow one another. In pruning and training young trees on walls take special care that main branches have ample space between them, bearing in mind the space required for the accommodation of the spurs when the bunches are well furnished. The old bearing shoots of Morello Cherries may be cut out, also weak shoots, training in young shoots a few inches apart, leaving them full length.

Gooseberries and Red and White Currants grown as cordons on north walls may be pruned as soon as convenient, as they are usually safe from attacks by birds in these positions. After the pruning lightly fork over the ground, but not deeply so as to injure the fibrous roots, and apply a dressing of decayed manure. In extending the young cordon branches of Gooseberries and Currants it is best to shorten the leading growth of each to about 10 inches at the winter pruning, otherwise side

shoots will not develop regularly on the lower parts. This is a slow but certain way of furnishing the branches with spurs. In some cases the leader may be left longer, but usually not more than a foot. Shorten side shoots to the lowest buds.

THE BEE-KEEPER.

SEASONABLE NOTES.

The past fortnight has been extremely mild. This is the third successive autumn that fine weather has prevailed. The last ten days of November, 1898, were showery, and the only snow we saw during the winter fell during that time. This year it has been dry and the temperature high. The sun has shone brightly on several occasions, and bees were daily on the wing, reminding one of April instead of what is looked on as the dullest month of the year. What effect will this have on the bees? If one may form an opinion from the number seen on the floor board and flying during the middle of the day we are inclined to say it is not possible to have stocks in better condition at this season than they are at the present time.

Although the weather has been so favourable, and the majority of the colonies are doubtless in good condition, they must not be neglected, as a sudden change in the temperature may be expected at any time. If from any cause extra coverings have not been placed over the frames, it should not be delayed any longer. There is warmth in paper, so there need be no excuse for not keeping them warm. Cushions made of cork dust make one of the best protectors.

When recently examining an apiary at a farmhouse we found each frame hive prepared for winter in a very snug manner. Each had a pad of straw neatly sewn together with fine string placed over the usual coverings which kept the inmates in an even temperature throughout the winter. The straw skeps, of which there was a great number, were all neatly thatched with the same material, which had the effect of keeping them warm and throwing off the moisture. This is in marked contrast to the skeps often seen in country districts without any protection whatever, except, it may be, a dilapidated zinc skep or a couple of broken tiles. Protection and warmth is of as much importance as ample stores, as without the former the latter is of little use to them.

COVERING STRAW SKEPS.

Whilst on the subject of protection and warmth, it may be interesting to bee-keepers who still have the time-honoured straw skep to know how to cover them neatly, so that they may be both rain and frost proof. We cannot do better than describe how they were done in the above well managed apiary. The covering was made with Wheat straw, and it certainly answered the purpose admirably. This is done by taking sufficient straw in one hand to cover the skep. The ears should be placed evenly together, and held with one hand quite firmly, whilst the short straws are combed out with the other, a broken wooden rake or something similar is excellent for this purpose. The straw is then fastened tightly with string or fine wire just beneath the ears, a few inches from the top. Then open the bundle of straw in the middle, and place it on the skep so that the straw hangs evenly round it. Place a hoop of wood or iron round the middle of the skep, as this will keep the cover in position and prevent the wind from blowing it away. The ends of the straw covering should be neatly cut so that they hang a few inches below the floor board, as this will cause the moisture to drop clear of the hive. The few straws that hang directly over the alighting board may be cut away so that the bees can gain admittance to their hive, and also afford ventilation.

Many bee-keepers keep a few straw skeps for the sole purpose of early swarms, as they invariably winter well if the colony is headed by a young fertile queen, which was well supplied with stores the previous autumn. Some of our well-known hive makers recognise this fact, and make a bar frame hive with wood and straw combined, and from the experience we have had of them they are well adapted for the purpose for which they were intended, combining warmth in winter and coolness in summer.—AN ENGLISH BEE-KEEPER.

FLOWERS FOR BEES.—I observe on page 485 that your contributor, "An English Bee-keeper," recommends *Colchicum autumnale* as a flower which should not be omitted from those grown for bees. I venture to ask him if he has observed that dead bees are often found in these flowers, though but seldom in those of any of the true Crocuses? At one time I was disposed to attribute the death of the bees to the cold of the season, but I am now inclined to think that it may be due to the poisonous properties of the *Colchicums*. I would suggest that *Crocus speciosus* and *C. longiflorus* be substituted for the *Colchicums* by those who keep bees. The two would give a succession which would give pollen for a longer time than the Meadow Saffrons. There are other species, such as *C. nudiflorus*.—S. ARNOTT.

TO CORRESPONDENTS

- All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 12, METRE COURT CHAMBERS, FLEET STREET. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Birds and Fruit Buds (C. H. B.).—We have found dusting the bushes with newly slaked lime when they were sparkling with globules of water on a still, misty morning to act as a very useful deterrent. The lime should be dashed upwards, downwards, and in all directions. When the work is well done every twig when dried will be quite white, and the lime which falls to the ground is there beneficial. Perhaps other methods will be described by practitioners.

Vines for Unheated Houses (Amateur).—Chasselas Vibert, Early Smyrna, Frontignan, and Foster's Seedling (white Grapes), also Black Hamburg, Black Prince, and Madresfield Court (black Grapes) succeed in unheated houses farther north than the Midlands in favourable localities and seasons, under judicious management. This mainly consists in husbanding the sun's heat after the Vines start into growth, allowing them to do this naturally—that is, not coddling them in the spring, but ventilating fully, so as to prevent growth before April, then pushing them ahead by judicious early closing, especially after the Grapes are set and until they are well ripened. At the same time we consider that structures for growing Grapes in are incomplete if provision is not made for affording artificial heat.

Cineraria Diseased (F. C. B.).—The plant is what is known as "damped off" at the collar, and very tantalising it is to the grower. It is affected there by the sleepy disease fungus, called, when infesting Potatoes, *Fusarium solani*, and if attacking Tomatoes, *F. lycopersici*. With equal right it, on Cinerarias, may be called in your case *F. Cinerari*. But it also attacks herbaceous and shrubby Calceolarias, and also, again, infests *Humea elegans*, and, still further, often causes *Myosotis sylvestris* to go off in large patches. There is practically no difference between the so-called species except that due to the "host" which it occupies, and by which it subsists. The cause of the affection is too deep potting or planting in most cases, the moisture of the soil acting prejudicially on the stem which has been a considerable time out of the ground. This "sudden collapse" has been known to gardeners long before sleepy disease fungus was regarded as the cause, and always considered as a result of burying the collar in potting or planting, especially when the plant has become root-bound or hard and stunted in the growth. There does not appear any close root-binding in your case, but the plant has been put down quite an inch, and it is there, and there only, that the disease appears; hence the old gardeners were not far short of the mark when they attributed it to too much moisture at the collar, which caused the stem to decay, so to say, inviting the fungus. We do not consider any application would do any good. The plants should be kept as dry as possible consistent with the preservation of the foliage in freshness, but no amount of watering will restore infested plants. Possibly the resting spores of the fungus were in the soil or leaf mould. Some basic cinder phosphate 4 parts, and kainit 1½ part, mixed at the time of using, and added to the compost in the proportion of 1 per cent. of the mixture, blended well with the soil, and then, after laying a few days, turning, so as to secure complete amalgamation, would perhaps destroy the semi-parasite, or at least have a good preventive effect. It may even now be serviceable to the plants, a little of the mixture, say a pinch between the thumb and two forefingers, being sprinkled about the collar and on the surface of the soil. It was a mistake to refrain from the use of chemical manures, as they, especially those of a calcic nature, would help the plants to resist the fungus, if not actually proving directly antagonistic to it.

Teocoma radicans (C. T. S.).—Sometimes this climbing plant is pruned in the winter, cutting the young shoots back as may be necessary, but the better plan is to keep the young growths thinly disposed in the summer. They will then mature and produce flowers if trained on a sunny south wall. It is difficult to ascertain when this beautiful deciduous climber was introduced to this country from North America, its native place of growth. It was evidently cultivated in this country by Parkinson in 1640, as he has described it minutely, adding, "This never bore flower with mee, nor any other that hath it in our country that I could heare of." From that we may infer it could not have been long and generally cultivated, as the plant blooms freely enough when a few years old and the wood is well ripened. It used to be called *Bignonia radicans*, but was transferred to *Teocoma*, the difference in the genera consisting chiefly in the partition of the fruit. Plants are raised from cuttings and layers in the autumn, and grow luxuriantly in rich soil, but firm growth in firm soil containing chalk is promotive of flowering. It is popularly known as the Ash-leaved Trumpet Flower. See article by "R. P. R." on page 503.

Gomphia decora (W. Raby).—Small plants are very useful for decorative purposes. When grown in pots in warm conservatories or stoves the bright yellow flowers (fig. 90), which are freely produced,



FIG. 90.—GOMPHIA DECORA.

have a very cheerful effect amongst the foliage plants that usually predominate in such structures. It is easily grown, but is seen to better advantage in a small state, say in 48-size pots, than when of larger size, and to maintain a stock of suitable plants a few cuttings should be rooted occasionally. Light turfy loam with a little peat or, preferably, good leaf soil, will form a compost adapted to the requirements of the plant. Some attention is needed to keep the plants clear of insects, mealy bug and scale being the chief enemies, but these can be readily destroyed.

Apple Small's Admirable (New Reader).—This is a very useful hardy Apple, and we have often known it to be one of the few to crop well in adverse seasons. The tree is a very free bearer, and suitable for growing in the dwarf open bush form. When the requisite number of branches are formed, which should not be less than a foot apart, the after pruning is best limited to thinning, taking out superfluous growths in summer to prevent overcrowding, not shortening the main or bearing branches. This Apple was raised by Mr. Small of Colnbrook, near Slough. Trees, true to name, can be had from most, if not all, advertisers of fruit trees in our columns.

Forced Hardy Fruits (T. T. W.).—We regret our inability to give the names of "market growers of hardy fruits and forced stuff" who "would be pleased" to see you. We should have pleasure in doing so, however, if any of them were to intimate their readiness to extend a welcome to an unknown though enthusiastic horticulturist.

Plants for Shaded Rockery and Border (Rockery).—The heavily shaded rockery would only be suitable for such plants as Ferns, Ivies, Periwinkles and Hypericums, and the borders for bulbs and similar plants that flower in spring or naturally grow in shady situations. In borders shaded by trees we have found the following plants succeed:—*Aconitum napellus* in variety; *Allium cernuum*, *Moly* and *neapolitanum*; *Anemones* *spannia*, *coronaria* vars., *fulgens* vars., *japonica* and *j. alba*, and *memorosa* vars.; *Asperula odorata*; *Fuchsia coccinea* and *alba*, *Fortunei* in var., *lanceolata* and *undulata*; *Galanthus Elwesii*, *Imperati*, and *G. nivalis*; *Helleborus atrorubens*, *olympicus*, *niger* in variety, *orientalis*, *viridis cupreus* and *intermedius atropurpureus*; *Hepaticas angulosa* and *triloba*; *Hypericum calycinum*; *Narcissus albicans*, *Empress*, *Horsefieldi*, *Emperor*, *rugilobus*, *obvallaris*, *princeps*, *pseudo-Narcissus*, *spurius*, *Telamonius plenus*, *incomparabilis fl. pl.*, *Sir Watkin*; major *sulphureus* and *poeticus*; *Omphalodes verna* and *alba*; *alpine Auriculas*; *Primula elatior* and *vulgaris*; *Saxifraga (Megasea) cordifolia* and *speciosa*; *Scillas nutans*, *S. sibirica*, and *Vincas acutiloba*, *herbacea* and *minor*. German Ivies in many varieties do fairly well in the position you refer to and are useful if only for their foliage. The rockery, as before stated, we should devote to Ferns, as not many rock plants succeed under the heavy shade of trees, but you require variety and the situation is open in the winter months you may plant the following:—*Achillea tomentosa* and *umbellata*, *Arabis alba* and *alpina*, *Aubrietias deltoidea*, *Campbellae*, and *græca*; *Campanulas Barrelieri* and *isophylla*, *Cerastium tomentosum*, *Cheiranthus Cheiri* vars., *Corydalis lutea*, *Cyclamen europeum*, *Dianthus deltoidea*, *Draba aizoon*, *Erinus alpinus*, *Geranium sanguineum*, *Glechoma hederacea*, *Hieracium pusillum*; *Hypericum coris*, *elodes*, *nummularium* and *reptans*; *Linaria cymbalaria*, *Lotus corniculatus fl. pl.*, *Lysimachia nummularia*, *Orobis vernus*, *Pentstemon barbatus*, *Phlox amena*, *procumbens* and *frondosa*; *Primula Sieboldi* vars., *Ranunculus montanus*; *Saxifragas Bursaria*, *Camposi*, and *S. oppositifolia*; *Sedums Rhodiola*, *Sieboldi* and *spectabile*; *Thymus asorinus* and *serpyllum*, and *Zauschneria californica*.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (J. W.)—Tibbitt's Pearmain. (B. B. H.)—7, Scarlet Pearmain; 8, Wyken Pippin; 9, Bismarck; 10 and 11, Queen Caroline. (Weybridge).—Old English Codlin. (T. W. B.)—1, Beauty of Hants; 2, American Mother; 3, Golden Pearmain; 4, Peasegood's Nonesuch; 5, Minchull Crab; 6, Beauty of Kent. (B. A. N.)—1, Aromatic Russet; 2, Winter Greening; 3, Golden Noble; 4, Greenup's Pippin; 5, Lord Derby; 6, Emperor Alexander.

COVENT GARDEN MARKET.—DECEMBER 6TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3	0 to 5	Grapes, black	0	6 to 8
" Canadian, barrel	10	0 15	" Muscat	1	0 8
" Nova Scotian, barrel	10	0 17	Melons	0	6 16
Cobnuts per 100 lb.	60	0 70	Pears, Californian, case	6	0 9
Lemons, case	14	0 20	Pines, St. Michael's, each	1	0 6

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	8	0 to 4	Leeks, bunch	0	8 to 0
Asparagus, green, bundle	4	0 46	Lettuces, doz.	0	6 0 10
" giant, bundle	15	0 20	Mushrooms, lb.	1	8 16
Beans, Jersey, per lb.	0	6 0 8	Mustard and Cress, punnet	0	2 0 0
" French, per lb.	0	4 0 5	Onions, bag, about 1 cwt.	4	0 4 8
Beet, Red, doz.	0	6 0 0	Parley, doz. bunches	2	0 4 0
Cabbages, per tally	7	0 0 0	Potatoes, cwt.	2	0 5 0
Carrots, per doz.	2	0 8 0	Seakale, doz. baskets	18	0 21 0
Caniflowers, doz.	0	9 1 6	Shallots, lb.	0	8 0 0
Celery, per bundle	1	0 1 3	Spinach, per bushel	2	0 4 0
Cucumbers, doz.	2	0 4 0	Tomatoes, per doz. lbs.	2	0 5 0
Endive, doz.	0	9 1 8	Turnips, bunch	0	8 6 4
Herbs, bunch	0	2 0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums	8	0 to 10	Lilac, white, bundle	6	0 to 8
Asparagus, Fern, bunch	2	0 2 6	Maidenhair Fern, doz.	6	0 8 0
Carnations, 12 blooms	2	6 3 6	bnchs.	6	0 8 0
Cattleyas, per doz.	12	0 24 0	Marguerites, doz. bnchs.	3	0 4 0
Christmas Roses, doz.	1	6 2 6	" Yellow, doz. bnchs.	6	0 9 0
Chrysanthemums, white	6	0 9 0	Mimosas, per bunch	2	6 8 6
doz. blooms	6	0 9 0	Mignonette, doz. bunches	6	0 8 0
" yellow doz. blooms	5	0 8 0	Narcissus, white, doz. bun.	2	6 6 0
bnchs. var.	0	6 1 6	Odontoglossums	5	0 7 6
Eucharis, doz.	6	0 8 0	Pelargoniums, doz. bnchs	8	0 12 0
Gardenias, doz.	4	0 6 0	Roses (indoor), doz.	6	0 8 0
Geranium, scarlet, doz.	6	0 12 0	" Red, doz.	6	0 8 0
bnchs.	6	0 12 0	" Safrano, packet	2	0 3 0
Lilium Harrisii, 12 blooms	12	0 18 0	" Tea, white, doz.	8	6 6 0
" lancifolium album	3	6 4 6	" Yellow, doz. (Perles)	5	0 7 6
" rubrum	3	6 4 6	Smilax, bunch	5	0 7 6
" longiflorum, 12 blooms	8	0 12 0	Violets, Parma, bunch	6	0 8 0
Lily of the Valley, 12	18	0 24 0	" dark, French, doz.	1	9 3 6
bunches	18	0 24 0	" English, doz.	1	6 3 6

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitis, var., doz.	6	0 to 36	Ferns, small, 100	4	0 to 8
Arums, per doz.	18	0 24 0	Ficus elastica, each	1	6 7 6
Aspidistra, doz.	18	0 36 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen	15	0 20 0	Lily of Valley, per pot	1	6 2 6
Chrysanthemums, per doz.	6	0 12 0	Lycopodiums, doz.	3	0 6 0
Orotans, doz.	18	0 80 0	Marguerite Daisy, doz.	10	0 18 0
Dracena, var., doz.	12	0 80 0	Myrtles, doz.	6	0 9 0
Dracena viridis, doz.	9	0 18 0	Palms, in var., each	1	0 15 0
Erica various, doz.	80	0 60 0	" specimens	21	0 68 0
Buonymus, var., doz.	6	0 18 0	Salvias, scarlet, doz.	6	0 12 0
Evergreens, var., doz.	4	0 18 0	Solanums, per doz.	9	0 18 0
Ferns, var., doz.	4	0 18 0			

TRADE CATALOGUES RECEIVED.

Dammann & Co, Naples.—Seeds.

Herb & Wille, Naples.—Seeds.

H. J. Jones, Ryecroft Nursery, Lewisham.—Chrysanthemums.

Vilmorin, Andrieux, & Co, Paris.—Tree Seeds.



GROWING THE BEST.

INCREASING competition in the markets of all kinds of agricultural produce is of such importance that farmers must keep steadily in view how it is to be met successfully.

The imports of farm produce in 1898 stately roughly in cash value are sufficiently startling, but we believe that this year's figures when made up will again show considerable increase.

IN 1898 WE IMPORTED VALUE IN MILLIONS.

Wheat, Barley, &c.	63
Live stock	10
Dead meat	80
Butter	16
Cheese	5
Margarine and lard	4½
Eggs	4½
Poultry	1½
Milk	1½
Fruit	4½

Millions ... £140½

Here we have an aggregate import of the value of 140 millions, which would pay the farm rents of the country three times over.

As an average production of the value of £6 per acre for arable and £3 per acre for grass would be quite as much as is realised here at present, and this would amount in the aggregate to about 200 millions, we can easily see how absurd it is to expect the English farmer to provide an increased return of 70 per cent., and so keep out the foreigner altogether. But as outside competition is here and must of necessity stay, the only thing to do is to see that the cream of the market be skimmed as far as possible by home products.

There are many things imported which this island cannot grow successfully, but they are not important items. Oranges, for instance,

must come from warmer climates, but there is good reason to believe that the supply of home-grown Apples could be much improved both in quantity and quality if the ordinary farm orchards were to receive more attention.

We do not refer to districts which are essentially fruit growing, but to the rest of the country apart from them. Thousands of acres of orchards attached to farmsteads are in a parlous state. We have only to take a walk round any country market to see the utter rubbish which is brought in to be sold under the name of fruit. A good orchard is a valuable adjunct to any farm, large or small; and it should be to the interest of landlords to see that such orchards are kept in good condition and bearing, gaps being filled up at once with profitable varieties. Many farm orchards might be profitably done away with and replaced by new ones.

An illustration of what may be done by enterprise is shown in the Potato market; here, although not without foreign produce, English practically holds the field. Even in years disastrous to the home crop the imports have not reached any enormous figure, and the last year or two they have been quite small, especially so if the early French and Jersey Potatoes were not counted.

This satisfactory state of things has been brought about by the successful enterprise of enthusiastic raisers of new varieties of great cropping and disease-resisting power, which have filled our markets with Potatoes, with which the foreigner could not successfully compete. Might we suggest that the Government, now we have a Board of Agriculture, should recognise in some substantial way the success of such efforts?

Experimenters in these matters do not always reap the due reward of their success, the hard cash too often going into the pocket of the exploiter. The English climate is well suited to the growth of Potatoes, and there should be no difficulty in holding this market against all comers, at any rate for many years to come.

The Board of Agriculture might also give similar encouragement to the original raisers (not the introducers necessarily) of new varieties of grain and fruit, which have proved themselves to be of staple popularity amongst growers.

Wheat we shall always have to import, and our present varieties are well nigh as perfect as we are likely to have them, but there is room for improvement in the Barleys. What is required is an earlier and stiffer strawed Chevalier; grain as good as Chevalier is essential. Increased quantities of Barley are being imported at the present time, and we attribute this fact not to any shortage in the home supply, but to the scarcity of Chevalier alone. Many brewers prefer to use malt made from Chevalier Barley, and not being able to procure the home-grown article have to go abroad for it. Here again we see that to keep our own market we must study the wishes of the customers.

Again let us turn to the butter market. Walk round the market in any country town and taste the samples, in some cases the smell will be enough to make us move on. We shall find a few good lots and perhaps considerably more than we could a few years ago; but, alas! there is too little uniformity, too few samples that will keep sweet for even a week, so the town buyer goes to the shop for Danish.

Who likes to give 2d. for a bad egg? No one; and once bitten twice shy. But the farmer's wife will be more likely to risk a doubtful egg in her basket now than she would in May, when they are cheap.

It is the same in the cheese market and everywhere else. Imported goods are specially grown and selected to suit the English market, and unless the home producer at least equals his opponent in quality and price he must submit to take a secondary position. Milk is one of the articles which we have hitherto grown at home, and the import is still proportionately small, being only 1½ million in value as compared to home supply, 40 millions. The price in many places is 2d. per pint, but as it can be produced in the country at 1d. there should be a margin for carriage and retailing to sell it at 3d. per quart. Put good milk on the streets at 3d. per quart and there will not be large imports.

Again we say, "Grow the best," at any rate try!

WORK ON THE HOME FARM.

The weather is wonderfully open and dry, the water courses present an appearance more like a hot July than November, and there is again a difficulty about the water supply for the yards.

It is a splendid opportunity for cleansing and siding up any drains or big ditches that were left over from summer; with the aid of boots they may be done at any time, but the work is much assisted when water is comparatively scarce. Besides this, there is the point that ordinary labourers may do the work instead of professionals, and at much less cost.

Complaints are rife of the spread of disease amongst Potatoes. Many have gone wrong since being lifted, so it behoves farmers to pay close attention to their stores, for if the tubers begin to decay they must be sorted over at once, whether they are sent to the market or restored to the heap.

Work on the land goes splendidly, and the horses are having a good time—short hours and little heavy work. Ploughing was never done more easily, and the manuring for Potatoes could not have been done more favourably in summer; there is no cutting through of the wheels, and therefore no heavy pulling.

Care must now be taken with foaling mares. They should not be put in shafts at all, but to ploughing or harrowing. Carting Turnips is not unsuitable work if there is no need to back the carts.

This is the time to make the best use of the bull. Dairy cattle are never so good to sell as they are when they calve down in September. It is a good plan to have a yard set apart for the heifers of eighteen months of age, and to have a young bull with them all winter. Sheep are doing fairly well, but Turnips are disappearing very quickly. They are very poor food, and much cake will be required to supply the place of the missing constituents. Woody fibre cannot be included in that list.

Horses will require attention as to their general health, as they are not working so hard. It is a good plan to make a reduction in the corn allowance until February 1st. The men will not approve; but the horses will be better for it, and so will the farmer's pocket. Half a linseed cake per head per week, dissolved in the water-tub, is a capital thing to keep horses healthy and well in winter time. It will help to keep off humours such as grease. If the latter appears, give the animal a ball, and wash its legs with weak phenyle disinfectant.

BEST BUTTER-PRODUCING CATTLE.—For breeds for butter I would recommend the Jersey, Guernsey or Devon. Phenomenal cows are found in all breeds. Locations have little to do with a choice of breeds. The Devon is hardier than the Jersey, and the Guernsey requires better keeping than the Jersey. My experience, covering a period of twenty years, gives me a preference for the Jersey, not particularly the thoroughbred, but the high grade; the second or third cross with other breeds, that is, using any good sow for a dam, crossing with thoroughbred Jersey, then crossing the progeny again with thoroughbred Jersey. The first cross makes a half-blood, the second three-quarters, the third seven-eighths, the fourth fifteen-sixteenths, and a fifteen-sixteenths Jersey cow I once had that for milk and butter was the best cow I ever knew. With the modern warm barns we need not raise the question of hardiness. Our cows are not expected to be subjected to the cold in winter. It is no economy to permit this, but the reverse, with the hardiest breeds. I tie with chains, and have wintered cows that did not leave the stable from November till May. I kept one individual cow for years and could see no ill effect. I brush them every day. Though tying with chains, they can lie down on either side and turn and lick themselves at pleasure.—H. H. CHILDS (in "American Agriculture.")

CONDEMNING JUDGES UNJUSTLY.—As a rule, at the live stock shows we find five or six spectators around the horse ring to one witnessing the judging of cattle or other stock. It is at the side of the horse ring, too, that the most adverse criticisms of the judge's decisions are heard. It must be admitted that occasionally such decisions are given as to warrant complaint, but as a rule there is room for more charity than is exercised, as the selection of the men to do the work is made from their believed fitness for the task. There are so many little, yet important, points connected with the judging of the horse that affect his position in the eyes of the judge, which may be altogether unobserved by those outside the ring, and many little faults and failings that his owner may not have detected. We see, perhaps, standing a beautifully moulded stallion or mare, colt, filly or foal in the hands of a showman who has trained his favourite many times to set itself in the most attractive form and position, and we go away saying "That was a grand animal." Later on we learn that our favourite was left out of the place we had selected for it, and we cannot see why. The trouble was we did not see the animal trotted out, and, of course, failed to notice that it travelled wide and awkward behind, or curved its fore toes dangerously near the other leg, or some such defect, which the judges in doing their duty conscientiously and carefully had easily detected, and very rightly placed the animal in its proper place. Even when we see the competitors put through their various gaits we are more likely than not to be standing broadside of the animals, which prevents us detecting faults that may entitle him to a place several points below a less likely looking candidate. When we consider these points it will be seen how easy it is to condemn our judges unjustly.—T. W.—(in "Farmer and Stockbreeder.")

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THURSDAY, DECEMBER 14, 1899.

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PROPOSED NATIONAL GRAPE TROPHY.

NO subject of recent years has excited more
interest and brought a greater number of able
and thoughtful communications than the one that
has been discussed in our columns mainly under the
above now familiar heading. It is true that some
correspondents, whose opinions are entitled to great
respect, have gone far beyond the original idea.
They have widened it in two directions:—1, As
to the products that should be included in competi-
tions for a grand national prize of the nature of a
challenge cup; 2, As to the societies under the
auspices of which the trophy should be won.

We propose giving a sort of digest of the views
which have been expressed with the object of
ascertaining if the authors of them can by yielding
here a little and there a little, arrive at a common
understanding and a definite issue. There is only
one way, so far as we can see, in which this can be
done, and until it is done it is difficult to perceive
how the cardinal object—the provision of a national
trophy commensurate with the desire, and worthy
of its name, can be assured. The way to success lies
in the direction of the minority bowing, with as
much grace as they are endowed with, to the votes
of the majority. In one respect this would be
appropriate, as it is admittedly a national custom
and would be brought into operation for the attain-
ment of a national object.

It does not follow that the majority would be
absolutely right in their judgment and the minority
absolutely wrong. The reverse may be the case
when the matter is tested by time. The
prescience of minorities has been demonstrated in
hundreds of instances. It may seem paradoxical,
but it is true, that some of the greatest measures,
social and political, have been passed by the
influence of minorities. The soundness of the
views of the few could not, when first expressed, be
perceived by the many, but time made clearer the
vision of the greater number, and eventually they
were compelled to recognise the superior wisdom

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of the lesser, and the minority to-day became, so to say, the majority to-morrow. So it may possibly be in the case at present under consideration. Experience alone can tell. But obviously we cannot have experience without a start. This, then, is the most important factor at the moment—an agreement on lines on which a start can be made.

On looking through the several letters which have appeared on the subject under notice, it will be found among products regarded as worthy of being specified as suitable in a national competition for a great prize of honour, that Grapes are placed a long way in the ascendant. These, in fact, are in the proportion of more than five to one over a class for fruits generally. Though such a class is advocated by Mr. Owen Thomas in his admirably reasoned communication on page 397, November 2nd, he speaks in approving terms of the original proposal for Grapes alone; and even in taking a broader view of the subject he would still let Grapes lead the way—i.e., a national cup or trophy to be offered for these the first year; for under-glass-grown fruits the second year; outdoor fruits the third year; and vegetables the fourth year. It is a great idea, and its author found a strong supporter, not, perhaps, unlikely to be followed by others if a permanent challenge trophy should be established. We take it, then, that Mr. Thomas would be with the majority as a start.

Mr. Challis propounds a still wider scheme in what can only be justly described as a statesmanlike letter on page 491 of our last issue. Though many readers must applaud his sentiments, some of them—perhaps several—may be inclined to regard his colonial and international proposal as being somewhat in advance of the times. Great achievements can only be attained step by step, with not infrequent delays caused by obstacles that have to be overcome at the onset. The majority who have taken part in this discussion we suspect would desire to commence with a class that would be the most likely to prove a success from the first; and that class, according to an overwhelming expression of opinion, would be a class for Grapes. We are not without hope that the accomplished gardener at Wilton will regard such class as a safe first step towards his patriotic ideal, and that it will receive his support as a beginning.

As a matter of fact, on looking carefully over the letters from the comparatively few writers who have indicated a preference for fruit generally, over Grapes exclusively, for the competition suggested, we find nothing to lead to the supposition that they will do otherwise than fall in with the views of the majority. They will, we feel sure, become helpers in their respective districts in providing a valuable object of art, in which would be embodied the zeal of gardeners and others who are earnestly desirous of stimulating to further endeavour in the production of superior Grapes, in common with other forms of garden produce. Not exhibitors alone, by a very long way, may be expected to gladly share in the honour of contributing a "bit o' siller," if nothing more, towards building up a trophy which would be a memorial of the earnestness of devotees in the ancient craft at the close of the nineteenth century.

As to the form and character of the particular object desired, it will be soon enough to talk about that when means are forthcoming for procuring it. We have heard of a few "yellow-boys" that are likely to find their way to a fund, if and when such fund is established; but the principle of the disposal of a national cup or trophy should be previously understood. There are different rules for governing the final winning for personal possession of challenge cups; but they do not apply to one of the value of £100, and in our opinion cannot apply. We do not hesitate to join in the views of those who think that such a trophy should never become the property of any person. It should, as we have stated, be a grand national prize of honour—the greatest prize and greatest honour that a gardener can win; and he should have a substantial prize in money, also a permanent token, such as a medal or certificate for winning it. A handsome framed certificate engrossed on vellum would at once be an appropriate ornament for his home, and would register his success in perpetuity.

The question has been discussed as to the exhibitions at which such great prize should be competed for. Though that is a matter

which cannot, for obvious reasons, be settled in advance, a general principle may be indicated. In considering this aspect of the case we have to keep in mind the concrete fact that in competitions for a "national" prize no part of the United Kingdom can properly be excluded. In all references to the integral parts it must be understood the word England includes Wales. One correspondent refers to the principality in a happy phrase as "the mother of Britain, and mother and daughter speak with one voice, and will do so on this question." If and when the trophy is provided, as we think it may and should be, it must be open to be won by cultivators in England, Ireland, and Scotland, and whether the successful competitor be an Englishman, Irishman, or Scotsman, the honour of winning the great prize must belong to the particular division of the nation in which it is won. It is no question of a personal, racial contest, but of stimulating to high culture everywhere. As Mr. D. Thomson has forcibly put it, "John, Pat, and Sandy" are working in harmonious unity, and giving a gallant account of themselves in their prowess in the field of war, and so may they do so in brotherly rivalry in our beautiful and peaceful art of productiveness in the garden. This view of the case is in accordance with general opinion, and the particular seats of contest must be settled according to the circumstances that may ultimately prevail.

A question of more permanent importance is the legal possession of a great challenge trophy, if and when it becomes an accomplished fact. It must be invested in trustees. Who are these trustees to be? and shall they yield possession of it for a year to the owner of the produce with which it is won each season, or retain it in constant possession subject to its exhibition, under proper security, at the particular shows where the honour of winning it is contested for? It would there be a great source of attraction, and the centre of absorbing interest. The privilege of its exhibition would be worth all the prize money that might be allocated to the class by the committee of any important society, metropolitan or provincial, in any of the three divisions of the kingdom.

As to where in these divisions the contests should be held we can only gather, and inscribe the preferences of several writers who have taken part in the recent discussion. First, England appears to have been mentioned twenty-two times, Scotland eighteen times, and Ireland four times. Of the particular centres in these divisions we find Edinburgh proposed ten times, London nine, Shrewsbury six, and Dublin four times. As regards Shrewsbury, we have been clearly informed that, much as the compliment of nomination is appreciated, there can be no acceptance there prior to the claims of Edinburgh and London. This clears the way, and we are now reduced to the three metropolitan cities—namely, in alphabetical sequence, Dublin, Edinburgh, and London. These are the seats of three national societies—the Royal Horticultural Society of England, the Royal Horticultural Society of Ireland, and the Royal Caledonian Horticultural Society.

Now, if we could have our desire gratified, which we cannot always by a very long way, it would be to see a substantial contribution towards a great national object by these recognised leading societies, and that one or other of them should have the grand prize of honour in its temporary keeping when won within the confines of its own great domain. It would not follow that the contests should always take place at the shows of the three great societies. This would be a matter for arrangement between a National Trophy Committee and the officials of any societies, metropolitan or provincial, in the three divisions of the kingdom, and thus such centres as Belfast, Dundee, Glasgow, Manchester, and Shrewsbury, all of which have been incidentally mentioned in the discussion, with others not specified, would be eligible for attracting the attention of the horticultural world to the shows at which the grand national challenge prize would be lost and won for the season.

"But of whom," it may be asked, "is the Trophy Committee to be composed?" If the Royal Societies mentioned were to share in the movement they would naturally appoint delegates. This would bring these Societies in touch with each other, and eventually with provincial

organizations. Such delegates, with representative judges of fruit in the three national divisions named, would form a good nucleus. But this is anticipatory. Of more immediate importance is the formulation of a plan for obtaining subscribing adherents to the project. This could be done by a small provisional committee, able to meet in London. If a delegate or two could attend from Dublin and Edinburgh all the better. Still horticulturists closely connected with exhibitions, as judges or otherwise, could be found who might be trusted to consider the whole case on its merits, and if the editors of the chief gardening papers could also attend in person, or by authorised deputies, the representative character of the committee would not be far from complete. Should the result of their deliberations be favourable, it would be easy to form a general committee with members in various parts of country to aid in bringing the project to a successful issue.

If those of our correspondents who have taken part in the discussion on which these remarks are founded, or other persons interested, agree or not with the proposition and nature of a provisional committee, they might signify the same, if not in the usual and easy manner of a holding up of hands, by the not much more difficult operation of sending a post-card to the Editor.

REMINISCENCES OF AN OLD FLORIST.—No. 2.

As I have already said, although I have always counted myself as chiefly a florist, I do not think that anything pertaining to horticulture ever came amiss to me. I recollect that one of the earliest things that excited my interest was a collection of Cacti, and other subjects of the same nature, which our gardener took me to see when I was a good little boy of about ten; and the possession of a few offsets from some of the plants made me very happy. But this was a part of horticulture I never followed up, and when years afterwards I went to see Mr. Peacock's celebrated collection of them at Sudbury House, Hammersmith, and saw the huge masses, weighing several tons, which he had imported from Central America, I wondered how anybody could have wasted their time and money on objects so essentially ugly. Beauty of form, brilliancy of colour, and delicacy of perfume were in most cases altogether wanting, yet these are three qualities that make flowers so charming to us.

It was this same general love of horticulture that made me a frequent visitor to the gardens of the Royal Dublin Society at Glasnevin, and those of Trinity College, Pembroke Road, Dublin, then under the charge respectively of two able and intelligent Curators, Mr. Moore and Mr. Bain. No two gardens could possibly be more unlike one another. Glasnevin was charming as a botanic garden, its undulating surface, groups of fine trees, and abundance of water made it an ideal place for all those who loved plants; while Trinity College Gardens had none of these attractions. It was a flat level piece of ground, enclosed with high walls, close to a large iron foundry near the City, and dependent entirely for its interest on the plants cultivated in it. Glasnevin is now under the care of Mr. F. Moore, and Trinity College Gardens of my excellent friend Mr. F. W. Burbidge, who are both well-known horticulturists. Some years ago Mr. Burbidge had the degree of M.A. conferred on him by Trinity College, and when we meet, as we frequently do at some of the meetings of the R.H.S., it is pleasant to talk with him as an alumnus of the same University.

In the year 1841 I was admitted into holy orders, and so left "dear dirty Dublin" for the then charming seaside place of Bray, about ten miles distant (since those days great alterations have taken place in it), and I found myself located in a small cottage on the top of the cliff overhanging the sea without one atom of shade or protection. I thought that my idea of floriculture had come to an end. The cliff was swept by every wind of heaven, and friends laughed at the idea of attempting to grow a flower there. However, I did not like to be beaten, and notwithstanding the jeers of my friends attempted to make a garden on the top of the cliff. My first idea was, of course, shelter, and so I made a fence about 2½ feet high round about the small piece of ground; the soil was light and good, and of course had no need of drainage. The next thing was to consider what flowers I should attempt to grow, and after some thought I determined to try the Carnation and Ranunculus. It may be asked whether in such an exposed situation I was not liable to depredations? No, never but once, when a young lady, who was always making fun of my "pooching about my flowers," as she called it, and who is now the wife of one of our most distinguished Field Marshals, carried off one of my best blooms of Picotees, but what could I say?

After living here about a year and a half I removed to a very different place about a mile inland. Everyone who visits Dublin is sure to go and see the Dargle, a romantic glen through which the river runs from the Enniskerry Hill down to the sea, and my next residence was situated on this river. It was a charming place, and the river flowed at the bottom of the garden, and here I began my real gardening work. The soil was light and suitable for many flowers; it would

not have done for Roses, but the time for Roses had not yet arrived. Auriculas, Carnations and Picotees, Pinks, and Pansies, were all taken in hand. I then commenced to appear as an exhibitor, and here I may say I never did much in that line, although I have several proofs of success in various articles that I won as prizes. The Royal Horticultural Society for Ireland then held the field; its exhibitions took place at the Rotunda in Dublin, and the large round room of that building and tents in the gardens were filled with plants, and on fine days a large company of the fashionables of Dublin resorted to them. Of course the shows would not compare with those I have seen on this side of the Channel, but still there were famous amateurs who sent magnificent plants, and the popularity of the Society was well kept up. The Royal Dublin Society always contributed some fine plants from Glasnevin. At this time it was rather exclusive, and some gardeners and amateurs, who were dissatisfied with its proceedings, started another, "The Royal Horticultural Improvement Society for Ireland." A neighbour of mine at Bray was the prime mover in it; it had a very up-hill game to play, and did not last many years; still it effected some good, and stirred the older society to more energy.

There were many charming gardens around Bray. Judge Crampton's at St. Valery, and Sir George Hodgson's at Hollybrook, and the Earl of Meath's at Kilruddery, were all charmingly picturesque, and how wonderfully shrubs flourished in those regions! Masses of Rhododendrons, Azaleas, and other flowering shrubs grew there in perfection, and in after years I was reminded of them in the gardens that I visited in the south-west of Scotland.

It may readily be believed, then, that I should sever myself from all these pleasant surroundings with many feelings of regret; but I had felt for years a longing desire to get to England. An Englishman by parentage and birth, I felt like a stranger in a strange land, and so at last made up my mind to move, and my thoughts were naturally directed towards the fair county of Kent. No thoughts of floriculture entered into this idea, but I had relatives and friends there, and through them hoped to obtain employment as a curate; but I went out literally not knowing whither I was going. All my flowers and objects of natural history had to be sold, and I went forth as a veritable pilgrim; and so ended my experiences as a florist and gardener in Ireland. I had about three years before this founded the Dublin Natural History Society, one of whose most distinguished members was Archbishop Whately, while many of its members were personal friends. It did good service, and after I left Ireland it did not, I believe, continue to maintain an independent existence, but was merged with some other society. Of course, I corresponded with many of these old friends, but year after year some of them passed, and I question very much whether any of those who were associated with me in those days now remain. This always is the case when one's own life is prolonged. One by one one's fellow-travellers drop off by the way, and we are left to make our way alone; at least, so far as the friends of early days go.—D., Deal.

(To be continued.)

APPLES.

HOARY MORNING.

UNTIL the present season the true variety of this Apple to me was unknown, but one tree in these gardens bore the name for many years past without any contest or dispute as to its accuracy. A young tree planted perhaps ten years since, fruited for the first time this season, and bears such distinct and striking characteristics that it passes at once into a position of the greatest favour. Exposed to the sun it has an uniformly deep crimson colouring, handsome in shape, and with a beautiful bloom such as I have not hitherto seen in any variety. It is this peculiar character no doubt from which it derives its name.

KENTISH PIPPIN.

I cannot help thinking that the Kentish Pippin Mr. Richards speaks of in his note (page 495) is either a local variety, or one not commonly grown under that name. I well remember a West of England Apple known as Kentish Pippin that used to be very highly prized for dessert purposes in the new year. This, as Mr. Richards says, was not unlike a Blenheim Pippin in general appearance, and when kept until after Christmas was quite as good.

Kentish Pippin, grown in Kent, and known also as Colonel Vaughan, is quite a different fruit, and to my mind neither so attractive in appearance nor high in quality as that known in the West. The fruit was so good that those who possessed trees had no difficulty in disposing of them at fancy prices in years of scarcity or plenty; indeed there were inquiries made for them each year, and not a little disappointment when there was no surplus available.

The late Mr. William Perry, when gardener to Mr. Cruger Miles at Shirehampton, repeatedly sent fruit away with the hope of getting some definite information of its name and history, but failed in every instance. In growth the tree resembles the Blenheim Pippin, making

a fine spreading head as a standard, in alternate years giving a heavy crop of handsome fruit. Possibly it was a seedling Blenheim without any authenticated record.—W. S.

EVERGREEN SHRUBS FOR TOWN GARDENS.

As the winter months, when the weather is dry and favourable and the soil works readily, afford a suitable time to plant bushes of various evergreen shrubs, a few remarks on some of the most popular and free-growing kinds adapted for growing near towns may be of service to intending planters.

Before naming the best kinds for this purpose it may be well to point out that the more thorough and complete the preparation of the soil before planting the better will be the growth, and the sooner will the shrubs be fully established. Evergreen shrubs do not produce good effects unless the growth is thoroughly healthy. Deep cultivation is recommended because of the freer run for the roots which it affords, and the retention of moisture in the upper layer of soil which the particles are able to gather from the subsoil by reason of it being worked and broken up instead of a hard inert mass.

Though large bushes of many kinds lift and transplant well if the work is carefully carried out, and the plants have plenty of fibrous roots, yet comparatively small specimens are the best to deal with, and should be employed if size is no object. The roots injured in lifting the plants ought to be pruned smoothly, especially in the case of any specimens sparingly furnished with fibrous roots. Make the holes large enough so as to well spread out the roots and plant the same depth as before. Give each shrub plenty of room, judging not only for the present but the space it will require in the future. The best shrubs must necessarily become spoiled when crowded. Shrubs of a spreading habit need abundant space when they have become thoroughly established. Compact growing specimens may be planted closer, but nothing is lost by affording plenty of space. Some less valuable but yet attractive shrubs may be used to temporarily furnish vacant spaces and give a finished appearance, though it ought to be understood that they are only acting as nurseries, and should be removed as the permanent plants develop and need the space.

The species to be recommended for town planting include about two dozen attractive shrubs of various heights, and if they succeed well in the smoky atmosphere of towns it is certain they will grow in more favourable situations, therefore may be recommended for general planting.

The shrub commonly known as *Alaternus* is really a *Rhamnus* or *Buckthorn*. *R. alaternus angustifolius* has narrow leaves and *R. a. rotundifolius* broad leaves. Both should be grown as affording a good contrast. *Andromeda floribunda* is a beautiful hardy evergreen shrub, growing about 3 feet in height and producing white flowers in May.

Aucuba japonica is a well-known common shrub, which is seldom missing from any shrubbery large or small. In good soil of any texture it grows well, and forms a compact bush, which may be kept without formal pruning at any height up to 10 feet, but specimens 4 to 6 feet high and correspondingly bushy are most frequently seen. The Austrian Pine is one of the best Pine trees for towns, and should be given ample room.

Berberis Darwini is an attractive shrub, and bears orange and red flowers in spring. The growth is erect, stiff, and bushy, and the foliage small, like miniature Holly leaves. It is not a tall grower, and may be planted towards the foreground of a shrubbery. *B. aquifolia* is also suitable. Box is indispensable, and in time will grow into a tall, ornamental shrub 6 to 12 feet or higher. It is one of the best small bushy shrubs. *Buxus sempervirens* is the common green Box, and there are golden and silver variegated forms.

Various types of Broom are attractive, especially when in bloom. *C. scoparius Andreanus* is one of the most beautiful; the flowers are yellow, with rich crimson markings. The white Portugal and the yellow Spanish may also be included. *Euonymus*, both green and variegated leaved varieties, are excellent. These shrubs may be kept to any desired height, but ought not to be cut in a formal manner. The smooth leaved forms of *Ilex* or *Holly* are preferable to the prickly varieties. Both green and variegated varieties should be grown, and to have shapely bushes ought not to be confined for space. Irish Ivy is adapted for growing on stumps, covering spaces under trees, and for walls. A most attractive winter flowering shrub is *Laurustinus*. A few specimens ought to be included, with ample space to grow freely and produce a good effect.

The Evergreen Oak is a shrub which attains to the height of a tree in the course of time; so specimens of it must not be too freely used in a shrubbery. The evergreen Privet is interesting because of its long slender growths and green foliage retained through the winter. The variety *ovalifolium* is even better. It is good for hedges as well as a shrub. *Rhododendrons* are amongst the most bushy and compact growing shrubs, and bear showy flowers in early summer. They do not, however, succeed on chalky or limestone soils, but flourish admirably in peat, loam, and leaf soil.—S.

FRUIT TREES IN POTS.

(Continued from page 472.)

ARTIFICIAL manures must not be given too freely or other effects will be observed than those that are desired. We give occasional assistance when the fruit is swelling and the stone forming. When it has reached the size of a small Walnut and until the ripening stage manures are applied twice a week, liquid manure once, and artificial once, Thomson's Vine manure, Veitch's Chelsea manure, Dickson's manure, in which phosphates are present in a good percentage, or something similar. A dusting over the surface of the soil is given and watered in with a rose on the can.

When the fruit is about half developed a top-dressing made up of equal parts of well-decayed manure and good loam is found to be beneficial. To this manure and loam a little artificial manure is added. It will be found that the roots take readily to this mixture.

During forcing the usual temperatures are adhered to. The atmosphere must not be allowed to get too damp during dull mild weather, or the wood growth may be fostered at the expense of the fruit. In fine weather syringing is practised, and also damping down between the pots.

The pruning of pot fruit trees, particularly in the case of Peaches and Nectarines, is very different from that given to trained trees. They are chiefly pruned during the growing season, beginning as soon as the fruit is set. A slight pruning only is given before the trees come into flower. Shoots are then shortened, and the pruning still goes on even after all the fruit has been gathered if necessary. We try to secure a shapely tree, and take care to leave no wood that will ultimately die back. The cut is always made close to a growing shoot, so that the wound may heal over again. Practically no disbudding takes place with pot trees. If shoots seem to be developing too rapidly they are pinched, this being far better than severe pruning during the resting period.

In thinning out the crop great caution is exercised; not until the fruit is of the size of Filberts do we thin at all freely, and even then three fruits are left to every one that will eventually remain to ripen. In this locality the fogs are so destructive, hence we have to exercise a greater amount of caution in thinning.

The gathering must in some cases (e.g., Early Rivers Nectarine) be done by cutting off the fruit with Grape scissors, because the fruit swells up tightly round the wood, and twisting might damage it.

Insects are more easily dealt with in the case of pot trees than with trained trees, as the syringe can be used amongst them in all directions. In the case of green fly we use XL All, which is perfectly safe, before the flowers expand and again after the fruit is set, when it can be repeated as often as necessary. This also kills the small caterpillars, which make havoc amongst the Cherries and Plums. For red spider the syringe must be used.

When the trees are out of doors after the forcing is over they are plunged in the open ground in an open position with two bricks under each pot, and also some ashes to keep out worms as much as possible. By the autumn these trees will have rooted freely.

The following varieties of Peaches and Nectarines have been found to be the most suitable here, and are arranged in the order of ripening.

NECTARINES.

Cardinal
Early Rivers
Advance
Lord Napier
Dryden
Improved Downton
Humboldt
Pineapple
Spencer
Newton
Albert Victor
Victoria

PEACHES.

Alexander
Waterloo
Amsden June
Hale's Early
Early Beatrice
Early York
Dr. Hogg
Crimson Calande
Grosse Mignonne
Stirling Castle
Dymond
Sea Eagle
Nectarine Peach
Princess of Wales
Osprey

The Plums that have been found to be best for forcing are:—Early Transparent, Jefferson, Kirke's, and Count Althann's Gage.

For general culture in pots the following Plums, Cherries, Apples, and Pears are good, and are arranged in order of ripening.

PLUMS.

Oullins Golden Gage
Early Transparent
Jefferson
Count Althann's Gage
Kirke's
Golden Espéren
Golden Transparent
Late Transparent
Coe's Golden Drop
Reine Claude de Bavay
Ickworth Imperatrice
Late Orange
Grand Duke
Monarch } are also excellent.

APPLES.

Cox's Orange Pippin
Ribston Pippin
Washington.

PEARS.

Doyenné du Comice
Dorondeau.

CHERRIES.

Guigne d'Annonay
Early Rivers
Bigarreau de Schrecken
Frogmore Prolific
Governor Wood
May Duke
Empress Eugénie.

—JAS. HUDSON, *Gunnersbury House, Acton.*



CATTLEYA MAGGIE RAPHAEL.

ALMOST every meeting that is held in the Drill Hall brings with it one or more Cattleyas, which are sufficiently meritorious to call forth honourable recognition from the Orchid Committee of the Royal Horticultural Society. This was the case on December 5th, when Mr. Hislop, gardener to H. S. Leon, Esq., Bletchley Park, Bletchley, exhibited *Cattleya Maggie Raphael* (fig. 91), which is said to be a hybrid resulting from a cross between *C. Trianae* and *C. aurea*. It is a peculiarly attractive flower, and was much admired by the Committee, who recommended a first-class certificate, and by the several visitors to the Hall. The sepals are yellow, with a slight flush of purple towards the edges; the much broader petals are rather deeper yellow, and are chastely veined and suffused with orange crimson. The magnificent lip is velvety crimson purple, becoming lighter on the front lobe and at the margins.

SOPHRONITIS CERNUUS

HOWEVER inapplicable the generic name of this Orchid may appear to some species, it fitly describes this one, which is a very modest little flower indeed. The pseudobulbs are very tiny, and squeezed into a cushion-like mass, from which the flower spikes issue rather freely. The blossoms are very bright red, with a yellow centre. In a very small pan or pot this is easily grown and happy, but planted in the centre of a large one it never reaches the outside, and consequently is not so well. Good peat and moss suit it best for compost, and it should be suspended close to the roof in a cool house. *S. cernuus* is the type species of the genus, and is a native of Rio de Janeiro.

CATTLEYA LABIATA AND C. GASKELLIANA

At the time of its latest or re-introduction there were those who said that *C. labiata* as then sent was simply a local form of *C. Gaskelliana*. The flowers are, of course, a good deal alike, both in size and colour, but they are abundantly distinct as kinds. *C. Gaskelliana* is as distinct from *C. labiata* as it is from *C. Mossiae*, but of course a family likeness runs through them all. *C. Warneri*, again, has been called the spring-flowering *labiata*, but it may with equal truth be designated the spring-flowering *Gaskelliana*.

Although I for one would never be sure of picking out the various sub-species included under the *labiata* class, there is no doubt that in quite a number of instances they may be guessed with fair accuracy, and anyone who has handled a large number of plants will, I think, bear me out in this. *C. Gaskelliana* and *C. labiata* are both flowering here now, and though I defy anyone to take a single flower cut off at the ovary and say for an absolute certainty which is which, anyone acquainted with Cattleyas could pick out the *Gaskelliana* plants. And, again, the double sheath so common in *C. labiata* I have never observed in *C. Gaskelliana*. Has any other Journal reader?

CYPRIPEDIUM CHAMBERLAINIANUM.

To attain any measure of popularity at the present time a new *Cypripedium* must possess some remarkable and distinct characteristics, and although this species cannot be described as new it serves to illustrate my meaning. Nothing at all like it had ever previously been seen, and it jumped into popularity as soon as plants were forthcoming. The fact that between thirty and forty old flower seats (bracts) had been seen on wild specimens on a single stem made orchidists anxious to see it in flower; but in this we were of course doomed to disappointment in a measure, as it was soon apparent that only a very few were open at the same time.

But it is a remarkable species all the same, and I recently noted a plant that had been in flower over two years. The individual blossoms are decidedly attractive, but too well known to need describing. Its culture is not difficult when strong, well-established plants are in question. This and the closely allied *C. Victoria-Mariae* like ample warmth and a compost of equal parts of peat, loam, and chopped sphagnum. The last-named is an inferior species to the above, growing larger, with very much looser flower spikes.

ANGRÆCUM VIRENS.

This is not so large-growing or showy as the nearly related *A. eburneum*, but it is a very handsome plant, the greenish and white blossoms being singularly attractive. *A. eburneum* requires large receptacles and much compost, but *A. virens* does very well suspended from the roof of a hot, moist house, in an ordinary sized basket. Sphagnum moss and a few large lumps of charcoal form the best compost, and the baskets or pots should be thoroughly drained. The roots must never be really dried, but less



FIG. 91.—CATTLEYA MAGGIE RAPHAEL.

moisture is needed in winter than when the weather is hot and the compost dries rapidly.

CATTLEYA SCHOFIELDIANA.

The flowers of this species are very beautiful, but the scent is distinctly unpleasant. The lip is a pretty combination of white and purple, the sepals and petals yellow. To grow it satisfactorily the plants should be fairly excited in spring and grown right on until after the flowers are past, when they are better for taking a rest. Like other Cattleyas of the *guttata* section *C. Schofieldiana* has rather large roots, and this makes a rough and very open compost necessary.

ONCIDIUM FORBESI.

The finest growths I ever saw on *O. Forbesi* were produced in an amateur's collection near Salisbury, in quite a cool house, and now I am in receipt of a very fine spike of flowers from the same cultivator. As it is nearly five years since I saw the plants, and they have gone on flourishing, I think that we may conclude that the cool house is the place for it. Yet how often one sees plants of it dwindle away in such structures, showing plainly enough that temperature is not everything. I am more and more drifting to the opinion that if one can keep Orchids in their proper season of growth and rest exact temperatures are not very important.—H. R. R.

WHAT I SAW AT THE SHOW.

I AM not going to give myself away by telling where the show was; it is quite sufficient to mention it was held in a prosperous cathedral city, a city full of rich dignitaries of the Church, and also full of rich manufacturers; the surrounding neighbourhood abounds in country seats where as yet the owners are able to maintain their gardens. Knowing all this I went to the much-vaunted, widely advertised Chrysanthemum show, only to come away rather disappointed.

Having frequently visited the November show in an adjacent seaport town I expected something on the same lines. Well, of course there were "Mums," but least said, soonest mended—no great variety, no novelties, and no great quantity; all looked a bit *passed*. The groups were the prettier, but they were so stiff; the bamboo cane was so obvious, in many cases supporting only a very second class bloom. Some plants ought really to have been kept at home, the blooms were in certain cases ragged, in others undeveloped. I can never believe that a mirror thickly wreathed with flowers is in good taste, one so wants to take off the poor flowers, cut the stems, and give them a liberal supply of water.

There is one thing that always strikes me about "Mums;" can no one invent a better way for exhibiting cut blooms? There is nothing artistic about the arrangement; stiff and formal as a Yew hedge, without a suggestion of greenery to relieve the eye. You might just as well exhibit some handsome ribbon or paper rosettes as far as effect goes. There was a time when Lilies were forced sans leaves; well, that was soon altered. Cannot something be done to make the gorgeous flowers more like realities than they are? Their own green is so good, and so in harmony with all the colours, it seems a pity to leave it out of the scheme of decoration. The pot plants are a better, save where they are trained to death; trained out of all natural grace and beauty.

Is it not time the shower bouquets were seen no more? The maker knows, the buyer knows, the wearer knows, and possibly the flowers know, what a tremendous part wire plays in their construction. I do not advocate the stiff, hard, round posy, but surely something lighter and more natural could be done. To my mind too many flowers are used, fewer would look better, to say nothing about the difference in weight.

Then there were the stands of decorative plants for winter, excluding Mums and Orchids. Some of the foliage plants were beautiful trailing variegated things that would always be a pleasure, but there was such a lack of brilliant colour, too little Poinsettia, no Winter Cheer Carnation, no really good "Geraniums." What was wanted were some really good, compact, well grown "Geraniums," full of bloom, such as a country parson I once knew could always get in his greenhouse for November; he could teach these professional gardeners a thing or two, and give them a sermon into the bargain which they would not forget. I noticed the prizes in this class were given by a worthy gentleman whose father long, long ago was the first suggestor and first prizegiver, and I thought of a grand Maiden-hair that at the first exhibition had stayed at home.

There was a delicious table of royal Violets, royal in colour and perfume, and some royal by name. No wonder that stand was thronged. How sweet in November to get such a whiff of spring.

Now I want to appeal to my friends on a matter of taste. Usually this end of the year presents few attractions out of doors. True there is sport, but the most ardent sportsman is really only too glad to get in out of the fog and the mist, the dripping hedgerows, and the clinging fallows—only too glad to meet the brilliant warmth of the dining-room, with its crimson colouring and well-spread table. Do you not think the table, too, should be radiant in colour, to counteract the dreary outside? There should be a glow on it—a rosy hue; and that cannot be attained by white flowers and masses of green. Leave the white and the green for the dog-day decoration or the sweltering heat of an August evening, and then do not hang trails of Smilax at the table corners. No man or maid can possibly wait without putting them off. Do not decorate with little bows of ribbon of uncertain colour, and with queer little fancy vases, that hold neither flowers nor water satisfactorily. Choose "coloury" fruit, there is plenty of it this season; or if you cannot get it, use some of the bright crystallised confections. If you have candle shades, let them add to the general warmth; and do not make so high a centrepiece as to effectually cut off intercourse between host and hostess, and guest and guest. I once saw late in the year long trails of the tiny *A. Veitchii* used—passing from candle to candle, stand to stand. A table wholly white is ghastly, and reminds one of a funeral feast. That leads up to the wreaths. Flowers are all very well for the young, but for the middle aged and old an evergreen wreath is best, teaching of the immortality of the soul. Add a cluster of flowers at one side if you will, to preach of our mortality.

It may be people will say I am too severe in my strictures, but this is just how the show struck me. I know, indeed, what labour is

necessary to produce a single stand, but I felt surprised that wealthy people were so poorly represented. Perhaps I expected too much. I certainly was struck by the lack of taste in the table decorations, and the flatness of some of the stands of foliage and decorative plants.—THE MISSUS.

THE CHRISTMAS ROSE.

Few are the flowers yielded by the outdoor garden in the depth of winter, and among the few, the Christmas Rose, as *Helleborus niger* is called, holds perhaps the highest place. Its pure, though cold beauty, its shapely form, and the scarcity of other flowers, give it value in our eyes. It is a plant of some antiquity, for we are told that it was named *Melampodium*, in honour of a famed physician, Melampus by name, who lived in Peloponnesus some 1530 years before Christ, and who used it largely in his art, curing by its aid, among others, the mental affection of the daughters of Proetus, King of Argos. This led to the plant being looked upon with a superstitious reverence by the people. To us in the present day, however, it is of interest because of its uses in the garden. The Christmas Roses now number a good many varieties, which differ considerably in vigour of growth, in size of flowers, and, to some extent also, in purity of colour. In the following notes only a proportion of the varieties now available are mentioned. There are others deserving a place in good gardens.

THE GIANT CHRISTMAS ROSE.

One of the finest of the Christmas Roses is *H. niger maximus*, the Great Christmas Rose, which is a vigorous plant with large, deep green leaves, and having white flowers with a slight rosy tinge, which is absent if the plants are opened under glass. It may be had in bloom from the end of October to January. It is now reasonable in price, although a little more expensive than the ordinary form.

THE ORDINARY CHRISTMAS ROSE.

This can now be bought at a low price. Imported roots can often be had very cheaply, but those who want a nice effect had better buy home-grown clumps. The common *Helleborus niger* has smaller flowers than the variety already spoken of, and is less vigorous in habit. It also comes into bloom rather later.

THE BATH CHRISTMAS ROSE.

This is altogether a superior form, with large flowers of great purity and beauty. They are produced in succession from about December to March. This is a very desirable Christmas Rose, which is well worth the few pence more that it costs over the ordinary type.

ST. BRIGID'S CHRISTMAS ROSE.

This is a favourite with many who have not been deterred by its rather higher price from becoming its happy possessors. It comes into bloom in December, and produces its flowers in great numbers from that time until February. These flowers are prettily imbricated, and the plant is distinguished by its large pale green leaves.

OTHER VARIETIES.

Varieties of the Christmas Rose become more numerous, and this accession to their ranks is likely to increase as the taste for hardy flowers grows. There is no reason to suppose that this plant has yet attained perfection, and seedling raisers yet hope for further improvement. A good variety is *Madame Fourcade*, a good *Helleborus* with pure white blooms. *Val de Ledio* is also a pretty variety, much of whose beauty consists in the length and purity of colour of the bud. *Baskin Hill* is also a form of considerable merit. One could add several others, but to do so appears unnecessary for the scope of these notes. Those already named will form a fair nucleus for a collection.

CULTIVATION.

In many gardens the *Helleborus* is not a success, a circumstance largely due to the lightness and poverty of the soil. To insure good results it is essential that the plants be well treated. They ought to have a good, rather stiff soil, with the addition of plenty of manure. Where the soil is naturally of a light character it should be improved by the addition of a stiffer compost. Another cause of the comparative or total failure of the plants is the want of water in summer. They should not be allowed to suffer from deficiency in this respect. For my part, I advocate planting in August, although it may be done in spring or even in summer if care be taken that the plants do not suffer from drought afterwards.

In winter, when the plants are coming into bloom, it will be found profitable to cover them with a hand-light raised on a few bricks. This will add to the purity of the flowers and keep them from being splashed with earth during heavy rains. Although rather tedious, raising Christmas Roses from seeds is interesting work. The seeds are best sown whenever ripe, but this is not essential, although older seeds are longer of germinating. They may be sown in the open or in pots or seed-pans.—S. ARNOTT.

DEATH OF MR. ALFRED OUTRAM.

We deeply regret to announce the death of one of the best known and most widely respected men in the horticultural world, Mr. Alfred Outram, F.R.H.S., who expired suddenly at his residence in Moore Park Road, Fulham on Friday last the 8th inst., aged 52 years.

Mr. Outram was born in Lower Tooting, and had been connected with commercial horticulture from his early boyhood. He commenced work in the once famed nurseries of Messrs. Rollison & Sons, which have long been extinct. From there he passed to the great and apparently ever growing firm of Messrs. James Veitch & Sons, of Chelsea, and some half-dozen other places. He next entered the service of the excellent firm of Messrs. B. S. Williams & Son, of Holloway, in which he remained in different capacities over twenty-two years, a large portion of the time as traveller. In this line he was admittedly an expert, and was known almost everywhere, at home and abroad, where plants were cherished.

Mr. Outram visited not only every county in the United Kingdom, but almost every good garden over the length and breadth of the land; and he travelled on several occasions through the United States and Canada. He was also well known and highly respected in the chief nurseries of Europe. For some time he was connected with the gigantic establishment of Messrs. Sutton & Sons, of Reading, and represented the firm at exhibitions almost all over the country; but of late years he held many commissions, and his remarkable aptitude for business was universally acknowledged.

No man probably had a better knowledge of plants and their value, or a quicker eye for opportunities than Mr. Outram. An example of his methods, known to the writer of these lines, will illustrate this. "Will you drive with me to So-and-so?" was his query, going on to say, "we shall have a game; the swell has some big Palms and things he wants to get rid of, and I know who wants them; but I must have an order somehow as well." On his arrival the traveller was quickly told that nothing he had to sell was wanted, and it was useless wasting time. The irritability of tone was met with the quiet response, "Beg pardon, sir; I didn't ask you to buy, did I? Fact is, I thought you wanted to sell your big plants, and I have a customer." "Oh! come in then." He bought the plants, then remembered he knew of a bargain in little ones that would soon grow into money, and he could buy them in a year or two's time. The bait took, and what the astute traveller called a "real good line" was entered—"A bit of profit on both deals, don't you know;" and he returned a happy man.

Mr. Outram was one of the best and most trusted judges of plants and groups in England, and his services were in demand at practically all the most important shows. He was a happy genial man in a quiet way, all his own, and will be missed in many centres. His loss will be mourned by hosts of friends, who will extend deep sympathy with his widow and family in their great bereavement. The funeral is probably taking place in the Fulham Cemetery as these lines are being prepared for press (on Wednesday), and as his portly form is brought to mind, many will be the sympathetic ejaculations—"poor Outram!"

DISTINCTIVE GARDENING.

GARDENING appears to possess almost unlimited capabilities of pleasing expression, for there are few large gardens which do not show some particular feature giving an individual character to the place. If this is less evident in gardens on the smaller scale, these, too, are able to afford examples of what skill, energy, and taste can attain in developing existing features or creating new ones, in spite of a limited sphere of operations. One would fain seize the opportunity here offered to bestow a word of comfort on those young captains of the craft who find themselves relegated to an inferior command—one of the small gardens. Under the searchlight of a critical eye some of the best work that is being done in the gardening world is occasionally revealed by men so situated who, unconsciously may be, have adopted that noble motto inscribed on the Delphian Temple, "Nothing is impossible to industry." Granted that such is the exception rather than the rule, so much wider is the margin left for those to conquer who believe they can.

In small gardens there is more generally seen, perhaps, a sameness not noticeable in more extensive ones, arising probably from the desire to have a little of everything, with the correlative impossibility of having sufficient of any one thing to strike a distinctive note in the too-much-mixed surroundings. There is no garden so small, however, as not to contain within its area the elements of a distinctive character, even to the possibility of becoming unique, and before treading on wider fields a few suggestions may be offered, with the view not only to their pleasures being enhanced, but their sphere of usefulness extended. Moreover, from a gardener's outlook herein is

possibly room for one to expand, who feeling himself cramped by the narrow limits of very moderate demands upon his abilities, and confined to a contracted orbit of duty, longs to keep in touch with the great gardening world, from which an unkindly fate has excluded him.

In a locality where small gardens abound two examples may serve to illustrate what is meant; and small as they are the fame of one derived from a unique collection of one section among the hardy plants has spread far and near; the borders to which these particular plants are devoted being the *pièce de résistance* of what is only one of the common order of its kind—a small garden. The other, which also suggests itself, as a case in point, is one in which the man in charge and his methods employed are wholly at variance with what is generally supposed indispensable to gain distinction. For years our friend has laboured quietly and unassumingly in one particular phase of culture until he finds himself and his little garden famous, but it is not expedient to give more than a shadowy outline of one and his work, who without seeking notoriety finds it thrust upon him, somewhat to the discomfiture of his modest, humble, pound-a-week life. These men spent their term as probationers in the wider field of a botanic garden and ducal establishments respectively, and it was a great drop, undoubtedly, in their compulsory descent to the low level of a small garden; but they fell on their feet and none possesses a surer footing or is more esteemed in the gardening world.

Do any of our young men seek fame and feel their lot is not cast in those pleasant places where it resorts? Or does a nobler ambition prompt the desire to contribute their quota to the advancement of gardening, with little or no opportunity presenting itself on their foreshortened horizon? Then, as gardeners, should they remember that "mighty Oaks from little acorns spring;" and, moreover, they can and do flourish as well in small places as in lordly parks; so by patient labour and persistent endeavour may early dreams become the solid realities of matured life. That employers like their gardens talked about is understood by those who have been behind the scenes, and if ever pride becomes a virtue, surely it does so in this case. Some may refute the soft impeachment, "but though their tongues the charge denies their conscience owns it true." *Apropos* of this a gentleman said to the writer, "If you care to look round my little place come in at any time." The visit was paid, and in the course of conversation inquiry was made as to whether he had seen the Iris collection for which a neighbouring garden is famous. He had, and accorded a qualified measure of praise by saying "My garden is for use, not for show, and we don't go in for anything special;" but—and mark the sequel—his gardener remarked shortly afterwards, "The governor has been growling over the — Irises; says they are the talk of the country and he doesn't see why we can't have them as good." If competition is the life of trade, then a keen, competitive, critical interest shown by owners in their gardens, as well as in the gardener and all his work, may be regarded as the vital elixir of good gardening.

A bad quarter of an hour for the gardener is not uncommon after his employers have paid a visit where some or other distinctive feature of merit has been noted, and many an unpleasant truth is brought home to the man in charge unless he, too, can show something as a set off on the credit side. All this is well understood, though not much talked about; it is very common and very unpleasant. That it should not be so is another matter. What a lot of diplomacy is employed over these matters! "Just dropped in to have a look round." He was expected, for her ladyship had visited our garden the day before and was enraptured with the Chrysanthemums. It was easily divined that our neighbour had been expressly sent, for how often had not we, ourselves, "Just dropped in," propelled by a hint which it was wise to interpret as an order to view something bigger, brighter, or better than could be found at home. A fellow feeling makes us wondrous—cute.

In the endeavour to make his mark a wise man will not forget that "those who pay the piper should call the tune." He will seek not only to find out the wishes and tastes of his employers, but determine upon a spirited endorsement of their views. Master first, man after. Most men recognise this, but some only in a half-hearted way, by placing their own pet plans to the front and using all manner of insidious arts and devices to keep them there. That a gardener's way is the best way, goes without saying among men of the craft, and that he will not be happy till he gets it is equally certain, but where an aggressive policy courts failure a little diplomacy may insure success. This, advisedly, for the gardener's way generally results in mutual satisfaction and all round benefit; but without tact in starting the best men are liable to be misunderstood. The man whose sole end and aim in life is his calling can pretty well gauge at a glance the capabilities of improvement or development, which, with the common requirements of those he has contracted to serve, seem all-sufficient for a successful run in fresh fields and pastures new. A few remarks about distinctive gardening on the larger scale are, perhaps, worthy of further space.—A. N. OLDHEAD.

(To be concluded.)



NATIONAL ROSE SOCIETY.

ANNUAL MEETING.

THE National Rose Society held its annual meeting in the rooms of the Horticultural Club, Hotel Windsor, on Dec. 7th. There was a representative meeting, including C. E. Shea, Esq., in the chair, with the Rev. H. H. D'Ombrian, Rev. J. H. Pemberton, and Messrs. Geo. Paul, A. Piper, J. C. Pawle, Geo. Gordon, C. Cant, B. E. Cant, Prior, O. G. Orpen, Harkness, G. Moule, R. H. Langton, Slaughter, G. H. Cook, A. Turner, G. Bunyard, Dr. Masters, G. Mount, and E. Mawley.

REPORT OF THE COMMITTEE FOR 1899.

THE Committee, in presenting their report for the past year, congratulate the members upon the continued prosperity and increasing influence of the Society in all matters pertaining to the Rose.

There were two adverse conditions—the lateness, and also the dryness of the Rose season—which militated against the complete success of the Society's exhibitions this year. At the show held at Westminster towards the end of June, in conjunction with the Royal Horticultural Society, only exhibitors from the earlier districts were able to compete. The backward season also affected the Crystal Palace Exhibition, which took place a few days later, for, with the exception of that in 1896, it was the least extensive metropolitan exhibition of recent years. On the other hand the Colchester Show, although not quite so large as had been anticipated, was undoubtedly, all things considered, the best Rose show of the season. Unfortunately there occurred early in the afternoon a sharp thunderstorm, which must seriously have affected the attendance of visitors. It is needless to add that all the arrangements in connection with this provincial exhibition were admirably carried out by one of the experienced Hon. Secretaries of the Colchester Rose and Horticultural Society—Mr. O. G. Orpen, assisted by his colleague, Mr. C. E. Egerton-Green.

The new edition of the Official Catalogue of Exhibition and Garden Roses has recently been issued to members, also the report of the Rose Soil Analysis Committee. The thanks of the Society are due to the two sub-committees, to whom the preparation of these publications was entrusted, and especially to the members of the Catalogue Committee, who devoted several long sittings to the careful revision of this important work of reference. It is gratifying to report that the demand by non-members for the publications which have been from time to time issued by the Society has been greater during the past twelvemonth than in any previous year.

The death roll for the year is, the Committee regret to say, an unusually sad one, including, as it does, the loss of three such prominent members as the late Dr. S. P. Budd, Mr. T. W. Girdlestone, and Mr. T. F. Rivers. All three will in various ways be greatly missed

—Dr. Budd as a leading exhibitor, Mr. T. W. Girdlestone for the many services he has rendered to the Society during a long course of years, and Mr. T. F. Rivers as an able and much esteemed member of the Committee. It may here be stated that the first of a series of first prizes for garden Roses, to be entitled the "Girdlestone Memorial Prizes," subscribed for by members and others, will be competed for next year at one of the Society's exhibitions.

The Treasurer is again enabled to report favourably upon the Society's financial position. The income from all sources, including a balance of £86 18s. 10d. from last year, was £775 12s. 8d., while the total expenditure amounted to £620 11s. 1d., leaving £155 1s. 2d. to carry forward to the next account. It should, however, be explained that this unusually large balance, in a great measure owing to the fact that no northern show was held this year, must necessarily be considerably reduced when the expense incurred in printing and distributing the new catalogue of exhibition and garden Roses and the report of the Rose Soil Analysis Committee has been defrayed.

There has again been a steady increase in the list of subscribers, the number of members on the Society's books being 570, or more than in any previous year.

There will be once more three exhibitions in the coming year. The Southern Show will be held at Salisbury in connection with the Wilts Horticultural Society on Wednesday, June 27th; the Metropolitan Exhibition at the Crystal Palace on Saturday, July 7th; and the Northern Show in the Botanical Gardens at Birmingham, in conjunction with the Birmingham Botanical and Horticultural Society, on Thursday, July 19th. At the Southern Exhibition a conference will take place dealing with the interesting question as to the best methods of employing Roses for garden decoration.

Members subscribing £1 will, as usual, be entitled to two private view and four transferable tickets, the latter admitting at the same time as the general public; while subscribers of 10s. are entitled to one private view and two transferable tickets. Each of the tickets is available for any one of the Society's exhibitions. Members joining the Society for the first time in 1900 will also receive copies of the following publications:—The new edition of the "Official Catalogue of Exhibition and Garden Roses," "Hints on Planting Roses," the "Report of the Conference on Pruning and Exhibiting Roses," the "Prize Essay on the Hybridisation of Roses," and the "Report on the Constitution of Rose Soils." Members alone are allowed to compete at the shows of the Society.

Considering that no northern show was held this year the special prizes presented were unusually numerous, and the Committee take this opportunity of thanking those members and others who have in this way contributed so much to the success of the Society's exhibitions. Among the donors may be mentioned the Mayor and Mayoress of Colchester, Mr. F. W. Camplon, Mr. O. J. Grahame, and Captain Ramsay. To those local secretaries who have in any way assisted in maintaining the Society in its present satisfactory position the thanks of the Committee are also due, and especially to Mr. G. W. Cook, who during the last two years has been the most successful of all its local representatives in inducing new members to join the Society.

BALANCE SHEET, YEAR ENDING 30TH NOVEMBER, 1899.

1898.		RECEIPTS.	
Dec. 1.—Balance at bankers	£86 18 10		
[Subscriptions	383 10 6		
Affiliation Fees, and for Medals from Affiliated Societies	75 12 8		
Advertisements	12 2 0		
From Crystal Palace Company	105 0 0		
Colchester	50 0 0		
Special Prizes	53 15 0		
Sale of Publications	8 15 3		
	£775 12 8		

(Signed) THOS. BURT HAYWOOD, Hon. Treasurer.
J. D. PAWLE,
FRANCIS TULLIE WOLLASTON, } Hon. Auditors.

EXPENDITURE.	
Printing, Stationery, and Advertising	£65 17 9
Postage, Telegrams, and Sundry Expenses	50 14 5
Secretary's Travelling Expenses to arrange Shows	0 19 10
Expenses Crystal Palace Show	12 12 8
Colchester Show	1 1 4
Medals	8 13 5
for Affiliated Societies	60 18 8
Prizes—Contribution to R.H.S. Show, 27th June	15 10 0
Crystal Palace Show	219 12 0
Colchester Show	120 5
Purchase of Plate for Prizes	25 6
Assistant Secretary and Accountant	30 0 0
Balance at Bankers	155 1 2
	£775 12

The Chairman, in moving the adoption of the report, alluded to their present happy condition as far as the financial position was concerned. But he would have them remember that the large balance was due to the fact that they only held two shows last season, and that balance would be largely diminished next year by the publication of their new catalogue and the Rose soil analysis report. He (the Chairman) was happy to say, however, that their membership now stood at 570, a record in the history of the Society. A tribute was paid to the memory of three prominent members who had passed away during the year, Dr. Budd, Mr. T. W. Girdlestone, and Mr. T. F. Rivers. Next year the Society was going to hold three exhibitions once more, and he was glad to say that the Royal Horticultural Society was going to hold a fourth in conjunction with the N.R.S. Mr. Bunyard formally seconded the report, which was carried.

Mr. O. G. Orpen moved that the following synonymous Roses be

removed from their new list, giving as a reason that they are rarely if ever seen now a days.

{ Baron de Boussetten	{ Chromatella	{ Adam
{ Monk. Boncenne	{ Cloth of Gold.	{ President
{ Duchess de Caylus	{ Advocat Duvivier	
{ Penelope Mayo	{ Maréchal Vaillant	

This was seconded by Mr. A. Turner and carried.

Mr. Geo. Paul then moved an alteration, or rather a new regulation, instead of Nos. 18 and 19 as they appear at present, which reads as follows: That in the three trophy classes at the metropolitan exhibition and in the two trophy classes at the northern exhibition, also in divisions A and B (nurserymen), and divisions C and D (amateurs) at the metropolitan exhibition, the blooms must be staged in boxes of the regulation size, viz., 4 inches high in front, and 18 inches wide, and of the following lengths: For 24 blooms

3 feet 6 inches long, for 18 blooms 2 feet 9 inches long, for 12 blooms 2 feet long, and for 9 blooms 1 foot 6 inches long. All outside measurements. Mr. Paul mentioned that the time had arrived when exhibitors should be compelled to adopt the same sizes for their boxes, for it had caused much dissatisfaction in the past, and uniformity was essential to good judgment. Mr. G. Gordon, in seconding, followed in the same strain, and said the Society should set an example to provincial societies. The Chairman strongly supported the new regulation, which was carried unanimously.

Mr. G. Paul towards the close of the meeting at first suggested that the Committee in framing the schedule might delete all or part of the treble classes, which he considered unsatisfactory, and replace those classes with a number of vases, as the National Chrysanthemum Society were doing. He called attention to the magnificent display the vases at the November show made, and he hoped the executive would endeavour to carry out the same idea, for it was equally applicable to Roses, and was certainly a more natural way of exhibiting them. Mr. C. Cant strongly objected to the loss of the treble classes. The Rev. J. H. Pemberton supported Mr. Paul's ideas, and hoped the time would come when their formal boxes were a thing of the past. Mr. G. Gordon would like to see the class for twelve blooms, one variety at least, arranged in vases. After further discussion Mr. Paul was induced to make his suggestion into an instruction to the Committee, just to test the feeling of the meeting. On the vote being taken Mr. Paul's motion received eleven votes, while fourteen hands were held up against it, a decision that seemed to give Mr. Paul satisfaction, as showing that his ideas were gaining ground with the members.

Dr. Masters moved a vote of thanks to Mr. C. E. Shea for his services in the chair.

PINE CONES.

WITH the exception of a few of the commoner species of *Pinus*, such as the Scotch and Corsican Pines, the cones of this genus are comparatively unknown, and yet amongst them may be found some of the most interesting of the many forms of fruit found in the vegetable kingdom. Pines, however, do not bear cones very freely in many instances, lack of moisture, or may be climatic influences, causing them to be barren year after year, though the trees look healthy enough, while many of them have only been introduced to this country within the last half century or so, and probably have not as yet attained a sufficient size to bear cones.

The great diversity of size and shape in Pine cones is remarkable, and it is a curious fact that the trees which bear the smallest and the largest cones are both natives of North America. *Pinus Banksiana* is a native of north-eastern America, and has a small cone, a little over an inch long, while *P. Coulteri* and *P. Sabiniana*, both natives of California, contest the honour of bearing the largest, the first named having a cone 12 inches long by 14 in circumference, the other being 9 inches long and 18 inches round at the widest part. The latter is a very handsome cone, being of a shining brown colour, with thick woody scales, each of which is flattened to the shape of an inverted triangle at the end, and armed with a stout slightly curved spine.

Between these extremes of large and small may be found cones of all sizes and shapes. *P. ponderosa*, about 6 inches long, with rather narrow scales, each furnished with a short sharp spine; *P. Pinaster*, about 4 inches long, with stout woody scales of a deep glossy brown hue; *P. inops*, 2 inches in length, with the ends of the scales much lighter in colour than the lower parts; *P. Thunbergi*, with small spiny cones, which are freely borne on comparatively young plants; *P. Jeffreyi*, with large loose cones about 7 inches long, the stout scales of which are armed with sharp spines; and *P. contorta*, about 2 inches long, are all handsome in appearance, and when brought together show a great diversity in shape and colour.

Pinus muricata, a species from California, has a curious habit of carrying its cones, which are about 3 inches long, unexpanded for many years, clusters of six to eight being common on branches varying from 2 to 4 inches in diameter. These clusters are arranged in a ring round the stems, and cling tightly to the tree, requiring considerable force to detach them, and must be fifteen or twenty years old at the least. *P. rigida* also carries its cones for a considerable period, but in this case they have expanded, and as a rule are nearly decayed, and can be easily detached from the tree. They are fairly common on branches 1 or 2 inches in diameter, and can sometimes be found on the main stems of the younger plants.

All these, however, belong to the two or three-leaved section of *Pinus*, the cones of the five-leaved Pines being of a different character. In these the scales are broader and thinner, are always spineless, and the cones are covered with a sticky resinous secretion, making them extremely unpleasant to handle. This secretion, however, dries up after the seeds are shed. The handsomest cone of this section is that of *P. excelsa*, the Bhotan Pine, which is 8 inches long, and has a light brown hue on the upper side of the scales, while underneath they are much darker. The other species of five-leaved Pines bear smaller cones, which in other respects resemble those of *P. excelsa*.—G.



RECENT WEATHER IN LONDON.—Winter is with us here in the metropolis as well as elsewhere in the country. Saturday and Sunday were both very cold with sharp morning frosts, while Monday brought a little snow. On Tuesday it was scarcely so cold, but frost fell at intervals throughout the day. At the time of going to press on Wednesday it was fine and milder.

— WEATHER IN THE NORTH.—Although a slight frost occurred as early as September 28th, and at least thrice during October from 4° to 6° were recorded, it is only since the 10th inst. that an appearance of settled wintry weather has set in. On that morning 7° of frost were recorded, and on Monday 11°, the latter part of which day gave every promise of snow.—B. D., *S. Perthshire*.

— ROYAL HORTICULTURAL SOCIETY.—The last meeting this year of the Royal Horticultural Society will take place next Tuesday, the 19th inst., in the Drill Hall, James Street, Westminster, when the Fruit, Floral, and Orchid Committees will meet as usual at twelve o'clock. Election of new Fellows at three o'clock.

— GIRDLESTONE MEMORIAL.—We learn that it is proposed to form a fund to provide prizes for garden or decorative Roses, in the cultivation of which the late Mr. T. W. Girdlestone always took a keen interest. Mr. Girdlestone made so many friends among rosarians, that we have no doubt of the success of this attempt to hold his memory in honour. Subscriptions will be received by Edward Mawley, Esq., Rose Bank, Berkhamsted, Herts.

— THE WINTER.—There seems to be great cause for thinking that another dry winter is before us. We had two or three persistent wet days in November, and the rainfall did great good. But how rapidly did its effects disappear, and no wonder, when it is remembered how remarkably dry was the subsoil previously to its coming. But since then there has been little rain, and December bids fair to be a very dry month. If that prove so, then we shall have to trust to January and February to make up the moisture deficiency which exists. Gardeners know all about the inches of rain which have fallen, or which, according to the averages, may be due; but they know far better what is the general condition of the soil, and I think most of them will agree that should all the present winter be dry that a serious disaster to gardening may follow.—A.

— HEMANTHUS ALBIFLORUS.—Although the flowers of this species are not so showy as are those of some of the others, it is well worth a place in the garden, for, in addition to its flowers, a plentiful supply of fruit is borne, which is of a decidedly ornamental character. As is the case with the majority of species of this genus, it comes from S. Africa. In habit it forms a dense mass of bulbs, bearing spatulate leaves from 6 inches to a foot long, with a row of hairs round the margins. The flowers are numerous, and borne in dense heads 2 to 3 inches across on stout scapes 6 to 8 inches high. They are white in colour, with prominent golden stamens. After the flowers disappear their place is taken by large heads of fruit, which, when ripe, is bright red. The seeds from these grow readily, and soon form good plants. Though it does well in pots, it is seen to greater advantage planted among rockwork; in such a position it grows much quicker, and keeps in better health. Although it grows well in a cool greenhouse it does much better in a structure which has an intermediate temperature.—W. D.

— RHODODENDRON DAURICUM.—At this time of the year, when most of our hardy plants are at rest and the outdoor garden is giving us very few flowers, those that defy the weather are very welcome. Of the half-dozen, or so, shrubs that flower during midwinter this is the most showy, and, given a sheltered corner, we can always be sure of a few blooms except in the severest weather, from November to February. It is the earliest of all Rhododendrons to flower, and probably the hardiest, as the flowers withstand several degrees of frost without injury. It is a widely distributed plant, principally in Dahuria and Mandshuria, and varies in habit according to the district it comes from, some plants being evergreen, others almost deciduous. The flowers are rosy purple, and an inch across. To be seen to advantage a dozen or so plants should be placed in a group in some sheltered nook, where it will not fail to be a source of pleasure to all who see it.—D.

— **NATIONAL DAHLIA SOCIETY.**—A committee meeting will be held, by kind permission of the Horticultural Club, in the club room, at the Hotel Windsor, Victoria Street, London, S.W., on Tuesday, December 19th, at 2 P.M.

— **HESSLE GARDENERS' SOCIETY.**—A meeting of the above Society was held on Nov. 28th; Mr. Mason presided. The essayist for the evening was Mr. Coates, of Hull. His paper, which was on Palms, was thoroughly practical, and proved interesting. A good discussion ensued, in which several of the members took part. A vote of thanks to the essayist and Chairman for their services terminated the meeting.—J. F. D.

— **DEATH OF LORD PENZANCE.**—Lord Pensance, who had been in failing health for some time past, died on Saturday last at his residence, Eashing Park, Godalming, at the age of eighty-three. The passing of the venerable Judge is recorded here because he was instrumental in adding to the beauty and interest of our gardens by the Hybrid Sweet Briars associated with his name. Lord Pensance's hybrids are very numerous, nearly a score of them being in commerce, possessing varied tints of colour, with foliage more or less perfumed, and awhile ago his lordship communicated an able paper on his experiments to the Journal of the Royal Horticultural Society.

— **INSECT PESTS.**—When referring to the Apple caterpillar I referred chiefly, of course, to the product of the winter moth rather than to the codlin moth. But, after all, I am not sure whether this maggot does not render some service, for it is usually found most plentiful wherever the Apples are most abundant, and thinning is meritorious work which the grower would not perform. In that respect the codlin maggot does some good. I have seen Plum trees far more seriously affected with aphids than they were this year, and generally Cherries were a fine crop and the trees very clean. My estimate of the Turnip flea or beetle is that it preys on all forms of the Brassica family, and it certainly has run riot during the past summer and autumn, but, whilst there is no telling what may follow on a dry winter, I think a wet one would settle that pest for a few seasons.—A. D.

— **VINES IN OPEN AIR.**—It may be interesting to "W. B., Lincoln," (page 468), to hear my experience with Grapes in the open air in the West of Scotland. My employer, being anxious to ascertain by experience how Grapes would do in the open, we secured a good fruiting cane of Black Hamburg in the spring of 1898, which was planted against a south wall. It was rather late in spring before it started into growth, but showed some capital bunches, which ripened by the end of November. The berries were quite black, well flavoured, and about the size of large peas. This summer it made stronger wood, but not so much fruit. In February of this year we planted a fruiting cane of Black Cluster against a stove facing south. It bore several bunches, which were ripening when the blackbirds carried them off before they were quite black. In November we planted another variety, Dutch Sweetwater, a white Grape, and we shall watch with interest to see which variety does best.—P. S., *Dumbartonshire*.

— **TRADE NOMENCLATURE.**—It would appear that in naming flowers and vegetables less attention has been paid to the vital point of brevity and the somewhat less important item of euphony than with any other horticultural product. Florists often forget that names are to be considered in the light of conveniences, and should be used primarily to distinguish one plant from another. Names are not meant to describe or characterise a plant; but if this is possible within reasonable limits, of course it is desirable, but any attempt to bring out the characteristic features of a plant in the name is usually a failure from the standpoint of brevity. Another feature in connection with the christening of new plants which I think may be justly condemned in this country is the practice of trying to raise into favour a new plant or vegetable by giving it the name of a person prominent in public life. This fault cannot be corrected, because it is widespread and uncontrollable. It will, no doubt, always be repeated to a certain extent, but most people will concede that good taste should dictate a different course. "Dewey's" and "Hobson's" are altogether too common in vegetables, fruits, and flowers. On the other hand American florists are to be congratulated on leading the reform by the use of short names. French florists still cling to the habit of endeavouring to retain the entire family genealogy when naming a single small plant. Perhaps I am not sufficiently informed on this point, but I would like to suggest that authoritative bodies, in passing on the merits of new plants, should also pass upon the fitness of the proposed name. This would tend to keep out of the trade some of the lengthy and objectionable appellations which are so commonly found.—J. CRAIG (in "American Florist.")

— **GARDENING APPOINTMENT.**—Mr. C. Flowers, for the past three and a half years foreman under Mr. J. P. Leadbetter, The Gardens, Tranby Croft, Hull, has been appointed gardener to R. Hodgson, Esq., Westwood, Beverley, Yorkshire.

— **PANCRATIUM FRAGRANS.**—The true *Pancratium fragrans* is a very attractive and sweet plant of great utility in our stove collections. But though usually described as a stove plant it thrives admirably in a cool shady fernery if treated carefully, and the charming pure white blossoms are very freely produced. I cannot say that I like the flowers of *Pancratium* in bouquets as they are sometimes used, but in wreaths or other floral devices where there is room to show them well up without hiding other flowers they are very beautiful. Arranged in a cool house with Ferns it is a delightful and fragrant plant.—B. S. E.

— **EXTENSION OF BROCKWELL PARK.**—We learn that at a recent meeting of the Lambeth Vestry a report was received from the special Committee appointed to consider the expediency of acquiring, as an addition to Brockwell Park, an area of about 42½ acres adjoining the park. The existing park contains about 84½ acres. The Committee came to the conclusion that it was necessary, in the interests of the growing population of Lambeth, to prevent the erection of buildings on the open space adjacent to Brockwell Park, and to preserve this fine piece of country for town dwellers. They therefore recommended that the Vestry subscribe the sum of £15,000 towards the purchase of the additional land, the sum to be raised by a loan for fifty years. The motion was carried unanimously.

— **USE COLD WATER.**—Recent experiments at the Wisconsin Station have fully demonstrated the uselessness of warming water to be applied to plants through the soil. Many cuttings of *Coleus*, transplanted Tomato plants, Beans, Radishes and Lettuce were used in the repeated experiments, the temperatures of the water ranging from 32° to 100°. The plants receiving water at a temperature of 32°—freezing point—grew as well and yielded as well as those watered with water at 70° or 100°. "The soil about the roots of the plants so quickly regains its original temperature that no check to growth is likely to result." These tests were made in the greenhouse, and in the open ground ice water was used in watering Beans and Radishes with results fully as good as when warm water was used.—("American Gardening.") [This is contrary to the experience of some practical gardeners in this country.]

— **POTATO LORD RAGLAN.**—This most attractive looking kidney Potato is known in different localities by various names, though there is never any mistaking its distinct appearance. At a village show recently I saw some remarkable specimens of this variety, and possessed of all its characteristics—medium in size, smooth, shallow eyed, and having the clear white skin and distinct purple splashings round the eyes. It may not be an exaggeration to say that Lord Raglan is the prettiest coloured kidney grown, and its appearance wins for it many prizes. Its eating qualities vary very much. Its flavour is not first class; in some districts it is so inferior that the variety is discarded entirely, while in others it is moderate, and in others again fairly good. As long, however, as Potatoes have to be judged by appearance, no doubt Lord Raglan will be a popular show variety.—H. H.

— **PRESENTATION TO COLONEL W. WEBB.**—The employés of Messrs. Edward Webb & Sons, seed merchants, Wordsley, were entertained to dinner at the Drill Hall, Wordsley, on Tuesday, December 5th, by Colonel and Mrs. W. G. Webb, on the occasion of the celebration of their silver wedding. The anniversary of the wedding day was October 14th. So important and interesting an event as the silver wedding of Colonel and Mrs. W. G. Webb, it was felt by the staffs, could not be allowed to pass without outward commemoration and proof of the appreciation of the worth of Colonel and Mrs. Webb. A committee was constituted, and it was decided that a presentation in silver should be made, and a more magnificent silver wedding gift could hardly have been devised than that which embodied the good will and cordial feelings of the subscribers. The presentation consisted of a heavy and massive silver punch bowl, from a design found in the Villa Albani, at Florence, the three handles being formed of three leopards climbing into the interior of the bowl. Added to this was a complete dessert service in solid silver, consisting of two oval compotiers and four round fruit stands, handsomely pierced and chased in the highest style of art. The bowl bore the following inscription:—"Presented to Colonel and Mrs. W. G. Webb, on the occasion of their silver wedding, by the staff of Messrs. Webb and Sons, at Wordsley and Siltney, Chester. 1874. October 14th. 1899."

— **THE PROPOSED NATIONAL GRAPE TROPHY.**—Kindly allow me to inform Mr. D. Buchanan that he is entirely wrong when he imagines there exists a quarrel between the Royal Caledonian Horticultural Society and myself. See page 492.—J. MCINDOE.

— **ROYAL METEOROLOGICAL SOCIETY.**—At the ordinary meeting of the Society, to be held at the Institute of Civil Engineers, Great George Street, Westminster, on Wednesday, the 20th inst., at 7.30 P.M., the following papers will be read:—"The Climatic Conditions Necessary for the Propagation and Spread of Plague," by Baldwin Latham, M.Inst.C.E.; "Note on a Remarkable Dust Haze Experienced at Tenerife, Canary Islands, February, 1898," by Robert H. Scott, D.Sc., F.R.S.

— **VIOLETS FOR EXHIBITION.**—So far as I know the above interesting and popular flowers are not represented at our shows for competition. We have so many good varieties, and they are much better grown than in former days, that I should like to see prizes given at our November and March shows for the best twelve bunches in three varieties, to be exhibited in specimen glasses or small boards; if on boards they should be of a white colour, not the usual green; also prizes could be given for the best six pots, not over 6 inches in diameter. It would form rather an interesting class, and likewise give the public a chance to see the new varieties.—A. J. L. [We think this proposition worthy of consideration by show authorities.]

— **PEAR GENERAL TODLEBEN.**—It is not often that reference is made to this Pear in the horticultural press, though it is one that stands well in the favour of some market growers, chiefly, perhaps, on account of its size and bold appearance. Ripening in October and November it is recognised as a good stewing Pear, though some consider it worth growing for dessert when on the Quince stock. In fruit plantations in the south I have met with this Pear frequently, and have seen remarkable specimens exhibited by market growers.—H. H.

— **NEW GARDEN PLANTS OF 1898.**—Such is the title of appendix ii-1899 of the "Kew Bulletin," and a most useful reference it will prove to be. In addition to the names there is a brief and reliable description of every plant enumerated. In the preface we find the following note, which succinctly describes the work:—"The present list includes not only plants brought into cultivation for the first time during 1898, but the most noteworthy of those which have been reintroduced after being lost from cultivation. Other plants included in the list may have been in gardens for several years, but either were not described or their names had not been authenticated until recently." The "Kew Bulletin" may be obtained through any bookseller for 4d. per copy.

— **STORING APPLES.**—The simplest and best method is to choose some room or apartment, free from extremes of heat and cold, dryness or damp, where a temperature of about 45° is maintained. A current of air is not necessary. The shelves should be made of poplar, sycamore, lime, or other white wood. Deal, oak, ash, elm, and almost all other woods give a bad taste to the fruit. One sheet of paper—and paper only—should be placed under the fruit. They ripen best and are of the highest flavour when left fully exposed to the free atmosphere of the fruit room, and in order to preserve a more even temperature the light should be shut out. Early and late ripening varieties must be stored in separate places, as well as all inferior or injured fruit. The plan of isolating each fruit by packing in tissue paper, sand, burnt earth, or other substances often, says the "Irish Farmers' Gazette," destroys the flavour of the fruit, and possesses no material benefit otherwise.

— **THE RUBBER TREE OF CUBA.**—It is the positive conviction of Major J. Orton Kerbey, who returned lately to the United States from a tour of Cuba, that he found there the true Rubber tree of Central America (*Castilloa elastica*) growing native, and that the conditions for its cultivation are more favourable on the island than even in Mexico or Nicaragua. Major Kerbey pursued his investigations further into the interior of Cuba than any recent visitor, from America at least, has done in recent times, being aided in his search for the Rubber tree by orders from the Government at Washington, which gave him command of the facilities of the United States military establishment on the island. On the southern coast of Cuba in particular, he personally saw the trees which he has identified as the *Castilloa elastica*, while he was assured by old residents of good standing that such trees were to be found in abundance. Moreover, he was assured that in former years goma (rubber) figured in exports of Cuba produce, going presumably to Spanish ports. Major Kerbey is writing some results of his discoveries for "The Indian Rubber World," and the information he has to give may be looked for with interest.—("Indian Gardening.")

— **EARL'S COURT EXHIBITION.**—Messrs. John Laing & Sons, Forest Hill Nurseries, have been awarded the gold medal for the admirable way they carried out their contract at the Greater Britain Exhibition just closed.

— **STARTING POTATOES.**—When Potatoes are forced, either in frames or pots, it is time the sets were started, and the best plan is to place them in shallow boxes in light loamy soil and burnt refuse. The front stage of a vinery just starting, or any light and not overheated house, will make a suitable place to start them. Little water is required until the shoots are getting strong, and when well rooted the sets may be lifted out, with the soil adhering to the roots, and planted or potted up.—R. HENRY.

— **AZALEA DEUTSCHE PERLE.**—This old and well known Azalea is probably the very best of all either for rapid or gentle forcing, and its pure white blossoms are always in request. It is every year imported in large quantities from the Continent, and it is usual to pot the plants and place them in heat at once; not the best method by any means. It is far better to give them a season to get over the disturbance, and force very gently, if at all. Then, if allowed a moist genial temperature to make their growth in, they will go on and improve for years, instead of being forced once or twice and then thrown away.—H. BURY.

— **ROSA RUGOSA.**—Pretty as the blossoms of this and the white variety of it are in summer, the great advantage of growing them is seen in the beautiful appearance of the bushes in the autumn. The foliage is quiet-looking and pretty, while the bright shining crimson fruits are extremely showy. *R. rugosa* is one of the strongest growers when it gets into a soil that suits it, and should be so planted that it has ample room to spread. In a neighbouring garden that I visit occasionally it is so planted that the growth has to be continually snipped back, and this militates against its beauty.—B. S. E.

— **BIRD'S-EYE SYCAMORE.**—That evil often has attendant blessings is well illustrated by the Buttonwood or Sycamore disease. It is well known, says Mr. Meehan, that this American relative of the Oriental Plane suffers seriously in early summer by a fungus attack that destroys the young shoots, and other buds have to push into new growth to replace the ones destroyed. But the woody bases of the dead spring branches are grown over by the increase in the woody girth, and form small "knots," or "bird's-eyes" in the timber. This gives the timber a great value in the preparation of fancy furniture, and the wood brings a high price in the lumber market.

— **SNOW IN LONDON.**—The first snowfall of the season in London took place on Sunday night, and on Monday morning the ground and roofs of the houses in the suburbs were clothed in a spotless mantle of white. The temperature, however, which was very cold again on Sunday, was less keen on Monday. In some parts of the country very stormy weather is being experienced. On Friday there was a very heavy snowfall in the Highlands, especially in the district of Lochaber. The depth of the fresh fall on Ben Nevis that day exceeded 12 inches, while the temperature recorded there averaged 10° below freezing point. Londoners are fortunately a long way from an experience of that kind.

— **METEOROLOGICAL OBSERVATIONS AT CHISWICK.**—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night.		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1890.										
December.										
Sunday .. 3	W.N.W.	deg. 32.0	deg. 21.7	deg. 43.3	deg. 25.7	ins. —	deg. 41.1	deg. 40.5	deg. 40.9	deg. 21.5
Monday .. 4	S.W.	43.3	41.3	50.1	26.5	0.06	41.1	45.6	40.7	26.3
Tuesday .. 5	W.N.W.	49.0	48.0	50.6	43.3	0.23	43.2	45.9	40.4	38.1
Wednesday .. 6	S.W.	49.1	48.3	54.3	47.5	0.05	45.4	46.1	40.3	43.7
Thursday .. 7	W.N.W.	44.9	44.6	47.1	41.9	—	46.5	46.9	40.1	31.9
Friday .. 8	E.S.E.	38.0	33.2	36.1	35.3	—	45.5	47.1	40.1	33.2
Saturday .. 9	E.N.E.	34.5	31.5	36.1	33.3	—	41.8	46.6	40.1	26.7
MEANS ..		41.3	40.0	45.4	36.3	Total 0.33	43.5	46.4	40.4	31.6

The first part of the week was dull and mild, rain falling on three days, the latter part being remarkable for black fogs and cold easterly winds.



MADAME R. CADBURY.

THE number of Chrysanthemums contributed to the exhibition held in the Drill Hall on Tuesday, the 5th inst., proved conclusively that the season was rapidly drawing to a close. There was one variety, however, shown by Mr. H. Weeks, gardener to Lady Byron, Thrumpton Hall, Derby, that stood conspicuously as a flower of promise. This was named Madame R. Cadbury, and received from the Floral Committee of the Royal Horticultural Society an award of merit, and in fig. 92 we give a photographic representation of one of the specimens. As can readily be seen it has immense breadth of floret, and is a deep, well built, reflexed Japanese flower. The colour is white, and the variety is almost certain to be well-come, though we have already a considerable number of white Chrysanthemums.

NOTES ON CHRYSANTHEMUM SHOWS.

A TOUR of the principal autumn shows in England and Scotland cannot fail to afford opportunities for suggestion for use in future schedule compiling. When we consider that close on 200 exhibitions at which Chrysanthemums play the leading part are packed into the short space of one month, what wonder if one is a stereotyped example of many others? Any change, no matter how small if practical, cannot fail to be welcome. I have jotted down a few items that may be useful for the coming season.

There is no disguising the fact that two improvements have abundantly manifested themselves this season—viz., the method of staging Japanese blooms, and the improved quality of the incurved section. I suppose many persons will smile sceptically over the latter remark. It is a fact, nevertheless, that improvement has taken place in the quality of the incurved flowers. No matter how slight, it is an advance on last year, and is pleasing to admirers of this section. There is another side to this question though, which is far from being satisfactory—viz., the inclusion of varieties which are distinctly Japanese in character. This fashion, as I term it, is now largely practised by leading cultivators, who ought to set up a higher standard of quality, even if only as a guide to others. The improvement I note lies distinctly in small classes, say for twelve blooms. Many really good example of culture and finish have been seen this season in unlooked for places.

The way in which classes for Chrysanthemums in vases have increased is a proof that Committees have become alive to the value of that method. For instance, the new class at the National Society's great show was an undoubted success, in spite of the adverse criticism such a class has received since. Personally I had my doubts as to the inclusion of five blooms in each vase, and said so more than once. I am, however, sufficiently convinced now that my fears were groundless. It was a magnificent display of high-class culture and effect, creditable alike to the suggestor of such a class, the management, and the exhibitors. I have no hesitation in saying that the premier collection was the finest display of Japanese Chrysanthemums ever seen; the quality of the blooms was remarkable.

At Edinburgh where the vase system was first employed on a large scale, there was a magnificent display and a splendid opportunity of comparing the methods adopted by individuals in arranging the blooms. In the three-bloom classes there was anything but uniformity in the length of stem employed. Some were too short, others the reverse; more erred on the side of the latter, though, than the former. By comparing the different methods I conclude the happy medium is that to adopt. For instance, a clear length of 9 inches of stem with foliage for the front row, and a foot for the back row, gives the best effect. It is important, too, that good foliage be employed. How much better a bloom of Edith Tabor or Phœbus looks when seated, as it were, on dense green leaves instead of those which are pale through a loss of chlorophyll. When the leaves are massive they hide the, at times, gaunt looking stalks and supports which are employed. Some exhibitors are not too particular about the neatness of tying the bloom stems to the added leaf shoots; good foliage hides imperfections of this kind.

Handsome leaves, too, may serve the exhibitor a good turn in competition, as they improve the general effect of an exhibit. Some exhibitors employ stems 15 and 18 inches long, above the top of the vase. This is too much. In the five-bloom vase class 1 foot of stem for the four blooms and an addition of 4 inches for the centre specimen is productive of a fine effect.

At Edinburgh, too, good use is made of the vase classes in demon-

strating the value of single flowered varieties and those ordinarily termed decorative sorts. For instance, Source d'Or, Margot, and Mons. W. Holmes are staged in good sized bunches along with Ferns, grasses, and any other foliage which suggests itself.

At York perhaps is to be seen one of the finest classes of this kind that it is possible. There twelve distinct varieties are required, three sprays of each, not to be disbudded, to be shown in vases. Twelve varieties make a grand display when well done as they usually are there. As many as ten competitors are found. This is a step in the right direction, and tests well the value of certain small flowering varieties that are beautiful in themselves but never get an opportunity of being placed on the exhibition table in any other capacity.

At only one show of my acquaintance is any attempt made to stage incurved blooms except in the orthodox manner—cups, tubes, and stands. This is at Hull. Prizes are there offered for the Rundle family, a type of Chrysanthemum much sought after at one time, but now almost obsolete as an exhibition variety. The class is worded thus, and invariably produces competition, "Two bunches of each of the three varieties, three blooms to a bunch, and with not less than 6 inches of stem, with foliage as grown." This is really a pretty type of flower, and makes an interesting class.

In the plant section there appears to be a much more diverse manner of presenting them than was formerly the case. Apart from the specimen plants prizes are now offered for groups of Chrysanthemums, undisbudded, intermixed with foliage plants. At Chesterfield a magnificent display was obtained by such a class. Varieties like Source d'Or, several single-flowered and Pompon sorts, were handsomely flowered and arranged in mounds, with a well-grown Cocks Weddelliana surmounting the whole; here and there a richly coloured Croton was placed, the margin being effectively executed with small plants and Ferns.

At Winchester a grand feature is made by offering prizes for six white varieties suitable for conservatory decoration in 9-inch pots. A similar class is provided for yellow flowered varieties. The plants are limited in the number of the blooms they carry, but the quality fully compensates for fewness.

The mention of this Society reminds me of an innovation of theirs put into force at the late show—viz., a clause in the rules that the cups when holding blooms staged shall not be raised higher than 16 inches from the table. This is a splendid idea, and might well be copied by other societies as a preventive of exhibitors staging their blooms at such an abnormal height as to make them look distinctly "gawky." At Winchester there was a great uniformity throughout the Show in this respect, and in no case had an exhibitor attempted to transgress the well meaning rule.

To me the granting of awards to premier blooms to both incurved and Japanese varieties did not seem to create any great anxiety or enthusiasm anywhere. The novelty appears to be on the wane. Very often the difficulty is to find a bloom worthy of the distinction in the amateur classes. As a rule certain varieties in both sections secure the coveted place, for instance some member of the Carnot family is generally in receipt of the honour in the Japanese section, and C. Curtis in the incurved division has few rivals. At Edinburgh this calculation was upset in the Japanese section, a magnificently coloured example of Pride of Madford securing the honour.

Here, again, the mention of this variety being shown in a reflexed character opens up an interesting point—whether varieties generally admitted to belong to one section, ought to be admitted to others and recognised as leading examples.—E. MOLYNEUX.

THE CULTURE OF CHRYSANTHEMUMS.

THE French N.O.S. is unquestionably stirring up a considerable amount of interest in the cultivation of the popular flower, and having its head-quarters at Lyons, we are not surprised at the literary activity as well as the practical. In four years the Society has gathered together from France and almost every country in Europe a total of 595 members, a feat of which the executive may feel justly proud, for here in England, with all our enthusiasm, it took our own leading society upwards of forty years to accomplish the same result. As a horticultural centre Lyons is unquestionably a place of great importance, and indeed, as a city, it ranks next to the capital itself.

Only a short time since we made a brief mention of Mr. Vivian Morel's new treatise on the culture of the Chrysanthemum, and can now point to another by two other Lyons horticulturists, M.M. Chabanne and Choulet, which bears the title at the head of this notice. The contents of this joint work include propagation, disbudding, potting in their various phases, standards, specimen plants, manures, fertilisation, maladies, and insect pests. A monthly calendar of operations is given, and at the end is a somewhat extensive list of varieties suitable for cultivation on the big bloom method. Illustrations explanatory of the text are given, and altogether the little manual now under notice ought to be a welcome addition to the literature of the flower in France.—P.

POMPON CHRYSANTHEMUMS.

THIS section of Chrysanthemums is chiefly noted for the small size of the flowers, which are as a rule freely produced, of perfect form and colour, and attractive in pots as well as planted out in the open borders. The blooms are especially suitable for decoration because of

lodging in the flowers. That their culture is not more general is owing to the rival attractions of the big Japanese blooms. They, however, meet a want which the Japanese cannot supply—viz., small and effective blooms for light decorations.

The culture of Pompons is very simple. The cuttings do not need propagating early except for the production of extra large bushes.



FIG. 92.—CHRYSANTHEMUM MADAME R. CADBURY.

their light and effective appearance, especially when cut with long stems, furnished with several flowers, from round which the small side buds have been removed. Pompons produce a much better display outdoors in late autumn than the larger flowered sorts, as their short and stiff petals are not so liable to suffer from excess of moisture

February is a good time to insert cuttings. Several may be placed round the edges of 3-inch pots. Use stiff clean growths, about 3 inches long, cutting off the bottom leaves and making the stem level close below a joint. Prepare a light, rich, sandy compost. Water the cuttings after insertion, and if a warm, moist atmosphere

is at command they will soon root. Rather than place them, however, in too much warmth it will be advisable to give cooler treatment and confine the cuttings in a small box covered with glass, under a hand-light, or in a small frame until rooted. They root sooner thus treated than if fully exposed to a warm, dry air, or in a cool draughty atmosphere. Due attention must be given them in the matter of supplying a little fresh air and wiping condensed moisture off the glass, but immediately they are rooted commence gradually to give more air and afford a light position on a shelf, maintaining the soil moist.

The next step will be to pot them singly in the smallest pots the roots can be accommodated in readily. Return them to the shelf, and when established pinch out the point of each plant to induce the formation of more shoots. By the time these have broken into growth the next shift into a larger pot may be made. Free growth will follow, and when each shoot has extended 4 inches another stopping may be carried out. In April give another shift into 5 or 6-inch pots, according to the size pot in which the plant is growing.

Afford frame treatment for a time with free exposure on favourable occasions until the plants can stand outside in a sheltered position altogether. In June give the last shift into 7 or 8-inch pots. Employ a substantial and generous compost, making it firm about the roots. Stand the plants on a moist bed of ashes for the summer, and give regular attention in watering, supporting the growths, and judicious feeding. The blooms are best on terminal buds.

For outdoor culture grow the plants in pots until May, and then plant out not less than 3 feet apart in fertile, though not heavily manured, soil. Water when required until established, and support the growths as they advance with three or four stakes, having some tying material run round them. Keep the soil free from weeds, and allow all the buds formed to expand. From these plants plenty of flowers will be produced during October and November. For pot culture the ordinary Pompons may be supplemented with the Pompon Anemone varieties. The catalogues of the trade growers always include Pompons, and a good selection of both sections may be made from them, as there are but few varieties which are not worthy of culture.—E. D. S.

RETIREMENT OF A SUCCESSFUL EXHIBITOR.

AFTER eleven years of success in growing and showing Chrysanthemums, Mr. Robinson, gardener to Lord Ludlow, Heywood, Westbury, Wilts, retires, and as he has had ample opportunity of becoming acquainted with the varied characters of both new and old varieties of each section Chrysanthemum societies in quest of competent judges would do well to bear Mr. Robinson's name in mind. Not a few societies find a difficulty in obtaining expert men, because there are so few who do not exhibit, and unless judges are up to date in their knowledge of the newer varieties, dissatisfaction among exhibitors is sure to be more or less prominent. During the past eleven seasons Mr. Robertson has taken 105 first prizes out of a total of 182 in the classes at such first-class shows as the Royal Aquarium, Crystal Palace, Devizes, Bristol, Bath, Reading, Swindon, Trowbridge, and Frome. New varieties have been always a special feature of the Heywood collection, and their cultivation having received Mr. Robinson's personal attention he must be fitted in a marked degree as a judge.—W. Wilts.

THE N.C.S. MIDWINTER EXHIBITION.

It is doubtful if this show held under the auspices of the leading Chrysanthemum Society serves any purpose. To horticultural exhibitors at any season of the year we look for object lessons. I must confess to a keen sense of disappointment after carefully viewing the exhibition in question. I failed to find even one item that could be termed new or fresh in any form. If such a meeting at that season of the year was the means of unearthing new varieties of the autumn queen specially suited for December flowering I should not have been induced to write this note of disappointment. I failed, however, to find one single variety that had its origin at this show.

This weakness is much emphasised by the fact of only two varieties being certificated at the meeting of the Floral Committee held on that day. In this case one was a single flowered variety, and the other a—to some—well-known Japanese variety—J. R. Upton—which was seen in exceedingly good condition at several provincial shows in November; which fact goes to prove what I say, that this meeting of the N.C.S. did little for the advancement of new or improved varieties of the Chrysanthemum in any section or for any purpose.

One point about the holding of this show that is an advantage to some is that the "lesser lights" of the exhibition fraternity are allowed to have a look in, as seldom do the "giants" compete. Whether this fact is owing to the big men being satisfied with their success during the previous month or whether the inducements at the midwinter meeting are not strong enough to entice them to risk the chance of sullyng their reputation is a moot point.

If this midwinter show is to be of any real benefit we must look

for a new set of December flowering varieties. If this aim could be assured, then would lovers of Chrysanthemums generally receive direct benefit. As far as I could see at the late show not one variety that could in any sense be termed a December flowering sort was to be found. The stands were made up with stock varieties, such as the various members of the Carnot, Morel, and Molyneux families, as well as from such well-known names as Matthew Hodgson, Mr. Joseph Chamberlain, Golden Gate, Le Grand Dragon, Etoile de Lyon, and M. Chenon de Leché. It could not be said that the blooms lacked freshness or quality, as the bulk of them carried much quality, and, for such varieties at this season of the year, were really well represented.

If further proof were required concerning the methods of staging the Japanese varieties in vases, as compared to the older plan of arranging them on the orthodox stand in cup and tube, it could here be found abundantly. One of the most interesting classes was that for single flowered varieties in bunches arranged in vases. Such a class well represented this section in its true character as a decorative flower. If more such classes were provided at all the autumn shows much would be done to relieve the monotony of many shows.—SADOC.

YET ANOTHER CUP.

ERE yet the ink is dry which has written appeals for the establishment of a great Grape trophy, our enthusiastic friend Mr. Molyneux proposes that Chrysanthemums should have a gold cup. Well might the Editor exclaim, now the idea is started, Why, let 'em all come. Besides Chrysanthemums there are Roses, Dahlias, Carnations, Begonias, and other things all in arms to have special cups, and the proposal to have a Grape trophy has aroused the sensibilities of the other fruits, especially Apples and Pears, and even Potatoes, and such common things as ordinary vegetables want to be similarly honoured. Even the delicately flavoured Onion sighs for such recognition. Let us have one thing at a time if you please. The Editor has now to lick into shape the proposals for the great Grape, or, shall we say, "fruit" trophy. If in the recesses of his sanctorum he sings, Let 'em all come, I know that he does not mean all at once, but only one at a time, and whilst writing about the "Grape" trophy I venture again to express a hope that it will be for "fruit," so that there may be for its existence far wider sympathy than attaching it solely to Grapes would produce. For one grower of Grapes who could enter for such a competition as this trophy should produce there would be twenty general fruit growers; and whilst I should not object to the class being one year for Grapes only, certainly another year it should be for prescribed collections of indoor fruits or of outdoor fruits, or of Apples and Pears, thus enabling all fruitists to compete for the honour of holding the trophy one year or another.—A. D.

SMALL CHRYSANTHEMUM SHOWS.

I AM quite at one with "G. H. H." (page 501), as to what the masses are likely to do in the culture of Chrysanthemums. I am strongly of opinion that rather than so many professionals starting small shows, we should encourage the working classes in their ideals and endeavours to bring about the best culture at their command. I have never yet met the gentleman who could afford a subscription to deny it, when he knew that his money was being used for the edification of amateurs and cottagers.

Frequently I have seen in the neighbourhood of Manchester some excellent specimen plants taking first prizes in open as well as local classes, and on inquiry I have been informed that such a one was gained by a joiner or a signalman. When one gets such information imparted, it only goes to show that in the near future there is an increasing class of enthusiasts amongst the masses who will demand all the sympathy and help of those in higher places—not only for the effect it will have on this generation, but on others to come.—R. P. B.

BIRMINGHAM CHRYSANTHEMUM SOCIETY.

ON the 7th inst. the Committee and friends of this Society assembled to dine in celebration of the annual show. Mr. W. B. Latham, Curator of the Botanical Gardens, as usual occupied the chair. After the loyal toast Mr. John Careless in giving that of the Society expatiated upon the good work which the Society had done in the past, in stimulating an increased love for flowers among all classes of society. He particularly complimented the exhibitors of the "groups of Chrysanthemums arranged for effect," which were shown at the recent exhibition, also extolled the Committee for having introduced a section of fruit (in the recent instance Grapes), and which was to be devoted to the hospitals of the city. Mr. Latham in responding remarked that the shows had become so extensive that for the last three occasions Bingley Hall had to be laid under requisition instead of the equally popular Town Hall. Unfortunately, however, the last proved financially unsuccessful, and had entailed a deficit of about £300, which would absorb the reserve fund. At the doors £226 less had been taken than on the previous occasion. However, the members of the Com-

mittee were determined to put their shoulders to the wheel, and hoped for more propitious weather than that which prevailed on the recent event. The Grapes for the hospitals, to which reference had been made, amounted to 1½ cwt. Several other speeches were made. A word of praise is due to Mr. F. W. Simpson (Hon. Secretary) and Mr. J. Hughes (the Secretary) for the successful manner in which they carried out their duties at the recent show, as also in the arrangement of the convivial entertainment.—W. G.

A PRIZE GROUP OF CHRYSANTHEMUMS.

At the recent Fruit and Chrysanthemum Exhibition of the Chester Paxton Society, the first prize group, which was exhibited by Mr. Edwin Stubbs, gardener to Mrs. Hudson, Bache Hall, created such an interest and received such high encomiums from the Judges, that more than ordinary interest was taken in it; and curiosity led me to call and see the home of this group at Bache Hall. It should be mentioned that Mr. Stubbs also carried off this much coveted prize last year against competition even numerically stronger than on the present occasion, but the quality of blooms and the general arrangement this year were decidedly better. Not only were the blooms of superb quality, but the general arrangement and effect left little to be desired.

No one visiting the gardens at Bache Hall can but be struck by Mr. Stubbs' enthusiasm, not only for Chrysanthemums, but also for the various other branches of the art committed to his care. At the time of my visit a series of frames containing well grown clumps of Violets attracted attention, the variety being Marie Louise, each plant carrying large numbers of good sized blooms.

The group of Chrysanthemums in question numbered somewhere about 100 plants, the principal varieties being Madame Carnot, Vivand Morel, Charles Davis, Lady Hanham, Mrs. C. H. Payne, Mrs. G. W. Palmer, James Bidencope, Louise, Joseph Chamberlain, Niveus, Madame Philip Rivoire, Lady Byron, Miss Elsie Teichman, Modesto, G. C. Schwabe, Chenon de Leché, Amiral Avellan, W. H. Lincoln, Ma Perfection, Desblanc, Madame Ferlat, N.C.S. Jubilee, S. de Petite Amie, Phœbus, Simplicity, Duke of Wellington, Madame G. Henry, Yellow Niveus, Mutual Friend, Mrs. Dr. Ward.

The size of the pots varied from 4 to 10 inches, and all the plants were in the pink of health and cleanliness. The most striking of all were, perhaps, Madame Philip Rivoire, Joseph Chamberlain, Madame Carnot, Charles Davis, and Mrs. H. Weeks, and it was with the blooms of the latter three varieties that Mr. Stubbs carried off first prize for the three best single blooms.—GEORGE MAXWELL.

CHRYSANTHEMUMS IN THE LIVERPOOL PARKS.

THANKS to a generous Parks and Gardens Committee who are fully alive to the requirements of this rapidly growing city, the catering for the public in the matter of horticulture is now conducted in no niggardly manner, but with a thorough earnestness that is quite refreshing. Throughout the summer the public have been feasted with all the choicest of flowers in season, and it is only within recent years that the Chrysanthemum has been cultivated so thoroughly and to the evident satisfaction of all visitors.

This is chiefly due to the energetic and courteous Mr. Herbert, who presides over all the parks, gardens, and open spaces with which the city abounds, and who is so ably assisted by Mr. Guttridge, who has charge of the Botanical Gardens at Wavertree. To go into detail with all the well-grown and capital varieties which they have at their command would only weary the many readers, who of late must have had quite a surfeit of names. Suffice it to say that at the excellent range of houses adjoining Mr. Herbert's residence in Sefton Park the display, although rather on the early side, was in the front rank, the arrangement and healthy condition of the plants calling forth the admiration of the large number of amateurs, and others of the general public who are not slow to criticise the work of so important a department of the City Council.

The fine display in Wavertree Park, where Mr. Guttridge so well presides, has been visited by multitudes who were loud in praise of the beautiful display, and it is a pleasing feature in the city life to find such great interest taken in the work by all classes, a tribute surely to the energy of the Committee and a fitting acknowledgement of the labours of Mr. Herbert, Mr. Guttridge, and the general staff.

EDWIN MOLYNEUX.

THIS variety is incomparable as regards colour, and try how we may we cannot approach the beauty of a well grown flower of this magnificent variety. If the culture of it could be more easily overcome—and I have not the slightest idea that many valuable hints will be readily given in the columns of the Journal by those who succeed best with it—we should see it more largely exhibited, and forming that balance of colour which it alone can give to a stand.

When adjudicating at a fine show not a hundred miles from Liverpool, I was more than pleased to find, on my expressing admiration for a

splendid bloom of this variety in the first prize stand, to learn from the Secretary that so much afraid was one of their prominent subscribers of this variety declining, that he was giving a special prize for six blooms of it at the next Show in November, 1900.—R. P. R.

BELLE PAULE.

In its own charming colour and contour this old Japanese variety has perhaps never been equalled, certainly it has never been excelled, yet one seldom sees it now in good condition. The flower is full and deep, the petals thread-like, whitish, with a purple-tinted edging that is very fine. It is not as strong-growing as may be desired, and somewhat tall, but even in bush form it produces some beautiful flowers, and is certainly well worth growing.—R.

IRIS SUSIANA.

I MUST thank Mr. Arnott and Mr. Whicker (page 482), for their complimentary remarks respecting my notes on *I. Susiana* and *I. Kämpferi*. My reason for planting the former in the same border as the latter was for the sake of economy and convenience. I am aware that it must be treated very differently, but being on the same border it may be presumed it will not be able to get proper treatment at the time when the latter must be supplied with abundance of moisture—indeed kept almost at saturation point.

I. Susiana requires to be dried off or rested. This was a difficulty I foresaw. But as I have already mentioned, the *Iris* border faces south, with a fall to the front. The small bed that has been prepared and recently planted is at the top of the border, the surface of which is about a foot above that of the bed in which *I. Kämpferi* is growing. Nine inches of drainage was put in, over this a layer of turves grass side downwards, and then about 15 inches of soil, so that the bottom of this bed is very little below the top of the border. This I thought would meet the difficulty, if not an ideal situation. It did not occur to me about the moisture ascending from the soil, and had I read Mr. Arnott's notes before the bed was prepared, I would have put in the flat stone. Perhaps the layer of loose stones will in part remedy this.

I think Mr. Whicker made a mistake in exposing his plants to the autumn rains, for the soil is generally very warm at this time of the year, and this would no doubt be the cause of failure, as he intimates. One of the most important points in the successful culture of this *Iris* is to prevent it making growth in autumn. Where this cannot be accomplished then perhaps the best plan would be to lift the rhizomes, keep them in a cool dry place during the winter, and replant in spring, although by this method I am afraid the best results would not be obtained. Most kinds of *Iris* resent disturbance, and do much better when left alone for some time.

In answer to your correspondent allow me to state what I intended to imply by saying the plants would be protected during the winter was, that they would be protected not only from severe weather but also heavy rains. For this purpose a small frame will be put over the bed. I do not suggest they should remain dormant altogether until spring; if they are planted in November, when the soil is much colder, they will doubtless commence root action, but not make sufficient top growth to push through the soil. I am under the impression that such plants would do better than those planted in spring.

With regard to Mr. Whicker's imported rhizomes, I would suggest that he plant some of them at once, and the remainder in the spring. He will then be able to note the difference, if any. As there is now sufficient moisture in the soil, I would advise him to put a frame or an old light over the bed as soon as the rhizomes are planted. During severe weather a little dry bracken or heather should be laid on.

Messrs. Barr & Sons, in their catalogue of bulbs, say:—Plant the roots in November (the tops not more than 2 inches below the surface) in a light, rich well drained soil, and cover with 3 or 4 inches of wheat straw; or, better still, marsh reeds or cut heather, which remove in March. Immediately these *Irises* have done flowering place over the plants a light, or panes of glass elevated 18 inches above the ground, so as to admit at the sides a free entry of air, and at the same time to keep off rain till October. The object desired is to thoroughly-ripen the roots, and prevent their starting into growth before spring. Or the roots may be lifted soon after they have done flowering, and stored on a dry sunny shelf or in perfectly dry sand till end of October or early November, when replant.—J. S. UPEX.

JUNIPERUS VIRGINIANA.—This is a capital Conifer for planting for a quick display on soils where the majority of the kinds do not thrive. In a cold heavy soil and exposed position I planted it three years ago, small stock about a foot high. They are now nice trees, four times that height, and very thrifty. It has a very feathery, graceful habit, and takes on a distinct bronzy look in autumn that makes a variety in a collection of Conifers. It is also known as the Red Cedar. Another fine kind for a companion is *Cupressus macrocarpa*.—C. HALL.

NOTES ON ALPINE FLOWERS.

(Continued from page 470.)

DRACOCEPHALUM GRANDIFLORUM.

THIS choice little Dragon's-head is unfortunately never too plentiful even in the best furnished alpine gardens. This is principally due, one thinks, to the fondness that slugs have for it. They can hardly be kept off it, and the time-honoured precautions of lime, soot, or ashes are generally applied in vain. The slugs generally succeed in the long run in destroying the plant. It is said by some to grow from 4 to 12 inches high, but I have never seen it more than 8 inches or so in height. It produces its flowers in whorled spikes, the blooms being a pretty purple colour approaching to blue. The corolla is almost 3 inches in length. The leaves of the stem are ovate, and those from the root are ovate and heart shaped towards the base. *Dracocephalum grandiflorum* comes from Siberia. It likes a good sandy loam and to be planted in a place which is well drained. It may be raised from seeds, and is also increased by careful division. It is unfortunate that this plant is so much liked by the "pests of the rock garden," as the slugs may well be called.

GEUM REPTANS.

Some writers dismiss the subject of the cultivation of this *Avena* in a very airy way, as if it gave no trouble whatever. It is, however, a difficult flower to manage in some gardens, and is frequently lost when planted out. I must admit to having found it very difficult to grow in dry soil. It likes more moisture at the roots than one can always give it, and at the same time it objects to standing moisture. I believe that it can be grown in shaly rock with an almost constant supply of water beneath. *Geum reptans* has pretty yellow flowers on stems about 6 inches high, and produced singly on the top. The barren stems creep on the ground, but the others are upright. It is a native of the European Alps, and flowers in early summer. It may be increased by division. When it does well *Geum reptans* is a pleasing plant for the alpine garden.

PRIMULA INVOLUCRATA.

There are not many of the *Primulas* which deserve at our hands more care than this beautiful little Himalayan species. In truth it merits more attention than it needs, as it is not a difficult plant to supply with its few requirements. It likes a cool and shady position in light soil which is almost constantly moist. It is very suitable for an artificial bog, but when that is not available it will grow and flower admirably in the other position indicated. One precaution needed is to see that it is occasionally top-dressed with soil, or lifted and replanted a little deeper. Those who do not know it may be glad to have the following brief description of its appearance. The leaves, which are bright green in colour, are small and rather oblong-lanceolate in shape. The flowers are elevated on stems about 6 inches high. These stems look thin and light for the heads of flowers, but are strong enough to carry them upright. The flowers are a pretty creamy white with a deeper coloured eye. *P. involucrata* is a native of the Himalayas. This *Primula* may be increased by seeds or division, and that it is fairly hardy. Some few, however, find it a little tender in their gardens.

ERIGERON AURANTIACUS.

The writer well remembers the delight with which he first saw a flower of this *Erigeron* open in his garden a good many years ago. In its colour it is unique, so far as I know, in the genus; and this and its neat habit made one enthusiastic in praise of this little alpine. Time has not modified one's admiration in the slightest degree, but it is only just to the reader to say the plant no longer exists in the garden. Like *Dracocephalum grandiflorum* it proves a sore temptation to the slugs, and they soon make it disappear if it is not surrounded with something in the way of an unclimbable fence. A zinc ring with the upper portion cut into points, or a ring of the fine brass wire material used for sieves, forms the best protection. One is apt to overlook placing these things about the plants in autumn, when the depredators are most at work. The usual result follows—the plants have disappeared. This is, of course, no reason why those who are little troubled with slugs should deprive themselves of the pleasure of growing this beautiful little plant. Those who have not made its acquaintance should not neglect to do so, even if they cannot keep it long; even one season's pleasure is sufficient recompense for the little trouble it gives to procure a packet of seed and raise some plants. Seed is cheap, and easily induced to grow. If sown early, the plants will bloom the same year. *Erigeron aurantiacus* only grows from 8 to 12 inches high, and has very pretty bright orange flowers on short stems. It is a native of Turkestan, whence it was introduced in 1879. As already said, it is easily grown from seeds, but it may also be increased by division.

SILENE ALPESTRIS.

On page 470 *Silene Schaffa* was recommended on account of its late and free-flowering habit. One has now to refer to another Catch-

fly, which has not the merit of late, but that of free flowering. This is *Silene alpestris*, an inexpensive and easily grown plant, which is superior to many which cost far more, and give constant trouble to keep in health. The Alpine Catchfly is not only beautiful and inexpensive; it is also easy to grow. It comes into bloom early in summer, about May with the writer, and produces numbers of shining white flowers every year. They are produced in panicles on stems about 6 or 8 inches high. The leaves are in tufts, and are of a narrow lance shape. This *Silene* is a native of Europe. It thrives well here in dry soil in the higher terraces of the rock garden in full sun. Although a dry position suits it, one finds that it is all the more thriving if it receives several good soakings of water in dry weather in spring. It will repay this by increased vigour and more abundant flower.—ALPINUS.

(To be continued.)

BIRDS AND FRUIT BUDS.

Two common but excellent methods to protect fruit buds from the ravages of birds have been given in response to the inquiry by "R. M." (page 475). Lime as advised in the correspondence columns (page 508) is used for this purpose on some of the Kentish fruit plantations, and it also has the effect of destroying obnoxious moss growths, which, if allowed to extend unchecked, are detrimental to bush fruit trees. I have found that it is a good plan to mix with the lime an equal proportion of soot, as this makes it adhere better. Where many people make a mistake, however, is in fancying one application is sufficient, whereas if the lime remedy is to be beneficial, it must be continued at intervals as fast as it is washed off by rains, at any rate so long as the birds are troublesome.

In Kent where so much bush fruit is grown, the bird question is a serious one, and one sees many devices for checkmating them. In some instances Gooseberry and Currant bushes are tied up as soon as the leaves have fallen, and remain so until the spring, when the swelling buds show that pruning can no longer be deferred. The idea of doing this is, of course, to prevent the birds getting at the buds, and in this respect it answers the purpose.

A common Kentish institution for the protection of fruit is the Sparrow Club. Most villages in fruit growing localities have their clubs, which pay premiums to their members on the heads of destructive small birds captured during the winter and early spring months. These institutions are responsible for the destruction of many birds, and but for them market growers would suffer a great deal more than they do. Many growers of Currants and Gooseberries depend entirely on the Sparrow Club to keep down the feathered pests; and only recently, when discussing this matter with a market gardener who owns some acres of bush fruit, he informed me that he did nothing himself to check the birds. He never fired a gun in his plantation or dressed the bushes in any way; and when I asked him if the birds destroyed any buds, he replied in the affirmative, but added that they always chose those at the extremities of the shoots, and therefore he left the pruning till as late as possible, and as the buds were soon in action it was rarely that any damage was done afterwards. When pruning is done in the autumn or early winter, all the buds, except those required, are of course cut away, and if birds eat those that remain, the result is serious.

If, on the other hand, the pruning is left as late as possible in the spring, though the birds may have had their share of the buds, in the meantime they will be chiefly those that would have been cut away in pruning, and the loss felt is not nearly so great. After pruning, the black cotton remedy or shavings tied to the bushes will keep the birds away till the buds have burst into growth.—H.

THE advice given by Mr. J. Campbell (page 497) has been oft repeated for the protection of buds and seeds from birds, and for sparrows it is no doubt unailing; but according to my experience not so with either bullfinches, bluecaps, or chaffinches. I do not wish to infer that it is thus with everyone, or to doubt the accuracy of Mr. Campbell's advice. What I notice is, that with birds there is no universal law, bullfinches in particular.

During a course of twenty years one would scarcely expect your correspondent to believe in the erratic tendencies of birds in other gardens and districts, but so it happens. Bullfinches, though strangers to the garden eight months out of twelve, make a desperate raid on Gooseberry and Plum trees while these are dormant in many gardens, and neither cotton, nets, lime, soot, nor petroleum has any uniform results from year to year. What proves a remedy in one year fails the next, and there is none better than the gun, when this is skilfully handled and permitted by the owner, which is not always the case.

Left unmolested, a pair of bullfinches are quite sufficient for destroying the fruit prospect, however good, of the small garden, or indeed a larger one, and they will follow the Gooseberry, Plum, Pear, and Apple in their order of progress in sap movement. Those who may have failed with the black cotton should try again.—W. S.

IXIOLIRION MONTANUM.

WE can tell "R. Browne" that the two "Ixia Lilies" known in gardens are *Ixiolirion montanum* and *I. tataricum*. Both are attractive border plants and form welcome additions to any collection of hardy favourites. They are suggestive of *Camassia esculenta* in the form and colour of the flowers, especially the first-named, which is represented in the woodcut (fig. 93), but they are not quite so strong growing as that, though very free and floriferous. *I. montanum* has been found in Persia upon the hills about Teheran and in other similar districts of temperate Asia. It is quite hardy in the neighbourhood of London permanently planted out in the borders. A moderately good soil appears to suit it better than one that is very rich, as in the latter case the growth is excessively luxuriant and the flowers proportionately few. In a well-drained position, where the bulbs become thoroughly matured, flowers are annually produced very freely, and are not only attractive in the borders, but afford a useful supply for cutting, the bright purplish blue colour being most agreeable for associating with the numerous other tints, which are more common.

LIVERPOOL NOTES.

THE YEAR'S FRUIT CROP.

THE splendid fruit exhibited at the recent Show in St. George's Hall, and the high encomiums passed upon the Herefordshire Apples, led me to think of what our district had been doing. We have not had a large crop this year, but what was gathered has proved of very fine quality, judging by the splendid local samples seen at the above show. I feel confident that the majority of our gardeners are fully realising the necessity of only growing few varieties rather than filling in every variety taking to the eye, without a due regard to their fitness to do real and useful service. This is as it should be, and gradually the old gnarled trees are being weeded out, and their places filled by reliable fruiting varieties.

In one of the poorest fruit years on record the following have stood out prominently, and carried heavy crops—Alfriston, Beauty of Kent, Bismarck, Keswick Codlin, Court Pendu Plat, Dumelow's Seedling, Ecklinville Seedling, Golden Noble, New and Old Hawthornden, Lane's Prince Albert, Warner's King, Reinette du Canada, Northern Greening, Peasgood's Nonesuch, Cox's Orange Pippin, Ribeton Pippin, and Stirling Castle. Lord Suffield, which is by many considered tender, never fails in any situation. One of our best bearing trees is planted in a north aspect, the soil being heavy and damp, and the ground scarcely ever receiving a ray of sunshine, but the roots are attended to.

The Pear crop has indeed been poor. Beurré Bosc, Beurré Clairgeau, Beurré de Capiaumont, Beurré Diel have been splendid this year from a wall, but useless always from bush trees. Beurré Rance, a late variety, we cannot forego; Doyenné du Comice, Fondante d'Automne, Glou Morceau, Jargonelle, Huxley's Prince Consort (grand), Louise Bonne of Jersey, and Thompson's have proved of great service.

Of Plums *Victoria* has been an enormous crop, branches having to be propped. The tree is planted with a large flag underneath; the roots are on the surface, frequent top-dressing being all that is required.

Strawberries got badly cut with late frosts. Scarlet Queen, a too little known variety; James Veitch, Royal Sovereign, President, Waterloo, and Latest of All were the finest. Raspberries were extra; Gooseberries and Red Currants well laden, but Black Currants only moderate, with Cherries fairly good. At the present time all kinds of fruit trees look in the best of trim for future work, but in the midst of such mild weather one cannot well tell the inner workings of root and branch, or what the outcome may be.

THE LATE SIR HENRY TATE, BART., J.P.

A feeling of regret was experienced by all classes when it became known that Sir Henry Tate, Bart., had passed away at the ripe age of fourscore years. He was well known to Liverpool people, owing to the great industry carried on in the city, and by his many splendid gifts in the cause of education. In horticulture, too, his sympathy was apparent by many kindly deeds and his love for all that was good and beautiful in Nature. Two sons living here, Mr. W. H. Tate of Highfield, Woolton, and Mr. Henry Tate, jun., Allerton Beeches, also Mr. Alfred Tate of Downside, Leatherhead, have followed in their parent's steps, the gardens attached to their residences being well kept, interesting, and stocked with the best of everything that could delight and please the eye.

POINSETTIAS.

Whatever may be the opinion of other parts of the kingdom as to the market value of Poinsettias, the Liverpool people do not buy

them at all readily at the present time. Asked for an explanation of this a salesman could give me none, unless it was that people took more kindly to the indispensable *Chrysanthemum*, the blooms of *Niveus* which are now coming in being sufficient to charm all beholders. Yet, in spite of it all, the gorgeous colour of the Poinsettia arrests the attention of everyone, and that, too, when arranged in proximity to other flowers for contrasting effect. If they could be grown so as to be in perfection at Christmas time the value for church decoration alone would be greatly enhanced.

CYCLAMENS AT AIGBURTH NURSERY.

Beautiful as was the large exhibit made at the recent Show at St. George's Hall, it pales before the excellent display which is now on view at the Aigburth Nursery of Messrs. R. P. Ker & Sons. Few men have done greater service in the developing and beautifying of so important a winter flowering plant than Mr. Hugh Ranger, Messrs. Ker's manager, and they are a long way ahead this season, both as



FIG. 93.—IXIOLIRION MONTANUM.

regards foliage and flower. The former struck me by its solidity and colour, and on asking if there was anything special to account for it, I was informed that the plants had never had the slightest shade during the hot summer through which we have passed. Cyclamen growers would do well to note that a little air and no shading is a good way to reap the best results. The new feathered varieties I am not in love with.—R. P. R.

INSECTS ON BRUSSELS SPROUTS.—The note on this subject in the correspondence columns, page 463, will I think be of interest to many readers, as this pest is more prolific this season than I have ever seen it. It appears that the long drought is directly responsible for it, and if means are not taken to check its onward career the loss may be serious. Only the other day I saw a patch of Brussels Sprouts in a small garden that was irretrievably ruined by the Cabbage aphid. They seemed to have taken sole possession of every plant, with the result that the latter had assumed a sickly flabby appearance, and had evidently stopped growing. I have also observed that the weakest plants go first, and in other gardens I have noticed one here and there affected very badly while healthy specimens near were quite clear. It is obvious in such cases the fire heap is the best place for weakly infested stalks as a means of saving those that are clean and healthy.—H.

FLOWERING TREES AND SHRUBS (DECIDUOUS).

In the notes I am about to pen I shall mark with an asterisk those shrubs which I have already included in my list of the best dozen, which flower during the spring or early summer months. It is an easy matter to write down the names of twelve good kinds of flowering shrubs; but when one begins to compare their good points with those possessed by the many other fine species and varieties in commerce the task becomes more complicated, as numerous matters have to be taken into consideration. For instance, when compiling my list of the best twelve I hesitated about omitting *Weigela rosea* in favour of that beautiful yet more modern shrub, *Genista Andreana*. One great object which I kept in view was to name shrubs which were not only showy, but which could also be depended upon to grow under a variety of conditions and take care of themselves in an ordinary shrubbery. This *Genista* is not, I think, suited for such a purpose; a good mass of it planted in front of a shrubbery is effective, and if other shrubs are kept clear of it thrives well, but its right position is on an open sunny bank where there is a good depth of soil; its flowers are then seen to advantage—they have great richness of colouring, and with judicious pruning the plants form dense bushes. *Abelia rupestris* is a very pretty shrub, bearing small pink flowers, and should be planted in a warm sunny position; height from 3 to 5 feet.

Several of the *Acacias* form stately trees, which are alike suitable for planting to form avenues or conspicuous objects in a shrubbery. They grow rather slovenly, but in time form splendid trees of picturesque appearance. Upright rather than spreading in habit of growth, their pendulous racemes of flowers and elegant leaves contrast well with the crooked and knotty branches. Two good forms to grow are *A. Robina* and *A. Bessoniana*. *A. rosea* is a very floriferous variety, so much so that the branches on young trees often break down with the weight of flowers if no support is given. It only attains a height of from 12 to 15 feet. *A. angustifolia* is a pretty yellow flowering shrub, hardy enough for planting in a warm position in the South of England.

Aithya frutex (*Hibiscus syriacus*) and its varieties are exceedingly handsome shrubs, which flower during July and August, yet how seldom one meets with them, a regrettable fact which can only be accounted for by the supposition that they are not well known. Some of the best varieties are *albo-luteolus plenus*, *Amaranthus albus plenus*, *bicolor hybridus*, *carneo-plenus*, *elegantissimus*, *Duchesse de Brabant*, *roseus plenus*, and *Violet Clair*. The *Aithyas* succeed well in any well drained soil, but prefer a light rich one.

The many species and varieties of *Amygdalus* may, I think, be rightly termed "queens" among spring flowering trees and shrubs. The stronger growing ones form splendid specimen trees for dotting among extensive shrubberies, as their charms are shown up to advantage when they spring from a groundwork of green or coloured foliage. The dwarfier growing kinds should be placed in the foreground of shrubberies, and be allowed room to develop into shapely bushes. *A. communis*, the well known common Almond, is really one of the most showy trees which blossom in British gardens. Large specimens in March, when their shoots are wreathed with pale rose-coloured flowers, are for the time being the glory of a few gardens; they ought to be of many. Trees grow freely in almost any well-drained soil, damp soil they detest. *A. c. amara* (Bitter Almond) flowers somewhat later than the species, the rose centre of the petals gradually shades to white at the edges. *A. c. dulcis* (Sweet) bears smaller flowers than either of the above, but it is well worth growing. Its blossoms expand early in March, and are of an attractive red colour. *A. c. flore-pleno* is extremely showy, the flowers being large and full, and of a very pretty flesh colour. *A. c. macrocarpa* bears flowers 2 inches in diameter, the colour being whitish rose. All the above grow from 20 to 30 feet in height. Three excellent dwarf growing kinds are *A. incana*, red; *A. nana*, rose, very free flowering, and excellent in every way; and *A. orientalis*, rose, branches clothed with a silver wool-like covering.

Among the *Berberises* only two deciduous varieties are grown in gardens. These are *Thunbergi* and *vulgaris*, the former bears flowers of a pale, yet attractive colour, and during autumn the foliage is beautifully coloured. The latter is well known, and although the flowers are not particularly attractive the shrub is worth growing in all large gardens, on account of the coloured berries which in August hang from the gracefully arching branches.

The crimson and yellow Broom (*Cytisus scoparius*) is by no means to be despised as a garden shrub, for it makes a brilliant show when planted in masses on sunny banks, and if regularly pruned may be kept dwarf and bushy. *C. canariensis* is a species which branches

naturally and is thoroughly worthy of the attention of planters. One does not often meet with *C. albus*, but it is quite as easily grown as the more common varieties.

That grand showy old shrub *Cydonia japonica*, is still one of the most popular shrubs to be seen in British gardens; its brilliant scarlet flowers begin to open in March, making a fine display before the leaves unfold, and throughout the summer a few flowers are here and there produced. It makes a fine climber for covering a wall, house or fence; and is equally suitable for planting singly on a lawn, where it will form a large spreading bush even in bleak Lincolnshire. I have seen plenty in exposed positions come through severe winters unscathed. In regard to its management a golden rule is "spare the knife" and plant in a sunny position, you will then unfailingly get plenty of blossoms annually. There are white and rose coloured as well as double forms. *C. Maulei* greatly resembles *C. japonica*, but the flowers are rather deeper in colour, and the habit of the plant more compact. It also produces yellow fruit freely, and is a most desirable shrub.

The Siberian Crab (*Pyrus prunifolia*) makes an excellent standard tree, the pale rose or white flowers, produced during April or May, being followed by small attractive-looking, but not palatable, fruits. This species is well known and frequently planted, but I wish to call special attention to *P. floribunda*, which seems to be little known, yet it is far more showy than the Siberian Crab. As its name implies, it flowers with wonderful freedom, the rich rosy red blossom being borne on light slender shoots, and are succeeded by attractive looking fruits about the size of Cherries. It is a fine shrub for growing as a half-standard, for it never reaches a great height. There is a good specimen in the grounds of Warwick Castle, which is annually admired by thousands of visitors.

Catalpa syriensis and *Cercis siliquastrum rubrum* form a pair of extremely showy trees which grow to large dimensions. The flowers of the former are borne in panicles above the leaves, like the Horse Chestnut, but are much more showy. The *Cercis* is, unfortunately, only hardy enough for planting in the South of England. *Chimonanthus fragrans* and *C. grandiflora* are pretty yellow flowering shrubs or wall plants, which often display their charms in the depth of winter. *Calycanthus floridus* (Allspice) is a spreading shrub, attaining a height of 6 feet, and worth growing on account of the delicious perfume the shrub emits. *Daphne mezereum* is a gem among perfectly hardy shrubs, as its deliciously scented rose coloured flowers open very early in spring. Its habit is also good, and it may be readily increased by cuttings or by seed. The white form is also worth growing. Either should be planted in a sunny position near the front of a shrubbery, or in front of a wall or building.

Three excellent *Deutzias*, well-known white flowering shrubs, are *oreata* fl.-pl., *candidissima* fl.-pl., and *gracilis*; the two former attain a height of 8 or 9 feet, the latter of 5 feet. The only pruning necessary is to thin out some of the older branches occasionally. *Dimeranthus mandauricus* is a handsome erect growing shrub with large bipinnate leaves, the shoots being surmounted by small whitish flowers. It requires a warm sunny position. *Forsythia viridissima* bears yellow flowers in abundance during March. It forms a pretty shrub if kept within bounds by a little pruning, and is also suitable for training against walls or fences. *F. suspensa* is pretty and elegant, but does not flower so freely as its companion.

The Guelder Rose (*Viburnum opulus*), though common, must on no account be despised, as it grows freely in almost any soil, and when large balls of white depend from its upright shoots it produces a novel and imposing sight. To see it in perfection it should be planted on a raised mound. *Hydrangea paniculata grandiflora* is a splendid shrub for planting near the edges of walks or in mixed borders. It is perfectly hardy, and the immense panicles of white flowers are great features in their season. *H. hortensis*, the older pink kind, ought to be more generally grown in the open air, as its characteristic flowers are extremely imposing, and if given a sunny position and plenty of manure fine bold leaves as well as flowers are produced.

All garden lovers know the yellow and purple Laburnums. How beautiful they are even when compared with the many floral gems of May. It is worth noting that there are several varieties of Laburnum, some of which bear much longer racemes of flowers than the species. *Watereri* is conspicuous in this respect. The flowers are also of a deep rich colour. *Kerria japonica* is one of the easiest growing yet brightest shrubs which find a home in our gardens. Its orange yellow flowers are borne in great profusion on shoots of the previous season's growth. I have sometimes heard this *Kerria* called the Persian Rose, and the blooms are not unlike some types of double Roses. A large spreading plant in an isolated position on a lawn is a brilliant object when in flower. They are also excellent for covering walls and fences, the only pruning necessary being to cut away worn-out branches occasionally, so as to prevent crowding. There is a variegated form which is quite worth growing.

There are many fine species and varieties of *Syringas* (Lilacs). *Chinensis* flowers very freely on slender shoots, and does not grow

so strongly as the majority of Lilacs. The flowers are violet in colour, but not so fragrant as persica or Charles the Tenth. The trio should find a place in all collections. *Alba grandiflora* is my especial favourite, the flowers are so large and beautifully white. *Alphonse Lavallee*, Dr. Lindley, and *Renoncule* are distinct and showy varieties. *Prunus triloba* grows to a height of 6 feet, and is well adapted for growing as half-standards or bushes. These, when wreathed with rose-coloured flowers, form one of the most beautiful objects to be seen in our gardens. *P. sinensis*, the well-known white variety, is suitable for planting near the front of a shrubbery or for forcing in pots. *P. pissardi* should be grown by all on account of the beauty of both leaves and flowers. *P. paniculata*, better known as *Cerasus pseudo-cerasus*, forms a good bush or small tree; flowers pale rose in colour.

Rhus cotinus (Smoke Plant) with its peculiar panicles of purplish flowers, is an excellent dwarf shrub of rambling habit which flowers in July. *Philadelphus grandiflorus* and *P. Gordonianus* are the best species of Mock Orange I have seen. The first named produces long sprays of large flowers; the latter bears smaller flowers, but they are very freely produced, and are quite white, a great improvement on *P. coronarius*. The numerous single and double varieties of Thorns and Cherries I will not dilate on, as they are universally known as handsome flowering trees.

Weigela rosea, to be seen in perfection, should be planted in a sunny, rather exposed position, where the wood gets thoroughly ripened. The flowers are then of a very attractive colour, and in some instances are far more numerous than the leaves. *W. alba* resembles *rosea* in all respects except the colour of the flowers.

For warm sunny positions in the South of England, or for growing against walls and buildings, what can vie with Magnolias, some of which bear flowers from 6 to 9 inches in diameter? The best varieties are *coquinea*, white; *Soulangeana*, pale purple; *Stella*, a dwarf-growing white kind; *purpureum*, and *Lennel*.—H. D.

NOTES ON CYCLAMEN.

PERHAPS it is hardly necessary to proclaim the merits of the Cyclamen; still I think it scarcely meets with the encouragement it deserves. Many genera of less value to the gardener have a special society devoted to their interests, and yet how meagre, comparatively speaking, are the prizes offered for Cyclamens at the November shows, where good specimens of them, well set up, would do much to impart variety, which is ever welcome with the public at the autumn exhibitions. It may be said by some that spring is their proper season for flowering, but if it can be managed why not have good collections of them for the autumn and winter months? One thing is certain, it would prevent an early strain being put upon the stock of bulbs and other things laid in for forcing.

As to the merits of the Cyclamen it is at all times an ornamental foliage plant; while in flower it is most welcome for indoor decoration, particularly during the dull winter months, and the flowers in a cut state are most valuable. By occasionally changing the water and being careful to make incisions in the stalk, I have had them fresh for at least a fortnight. Certainly no one will question the superior character of the flower, and further, few other kinds of flowers with which we have to deal will continue flowering over such a long period at a dull season of the year, when flowers are so acceptable. The *Chrysanthemum* grown to produce specimen blooms will after nearly twelve months attention give us three or four gorgeous flowers on a plant, and then all is over. The exact reverse is the fact with the Cyclamen, while a cold frame in summer and a warm greenhouse in winter is all the convenience necessary to grow them to perfection.

No doubt there are scores of places where fine plants are grown every year, but I have met with few where they are found in really high-class condition. At the end of October it was my good fortune to call at two gardens where their requirements are evidently thoroughly understood—viz., Spring Bank, Severn Stoke; and the Nash, Kempsey; both near Worcester. Mr. Wilson and Mr. Justice annually raise and flower about 300 plants. As I saw both collections they were throwing up quantities of strong flowers, and were expected to do so right on till Easter. For seedlings the plants were unusually large, robust, and healthy looking, with large substantial foliage.

Another fine collection I have recently seen was under the skilful care of Mr. F. Whicker, Summerhill Gardens, Kidderminster, who is particularly strong in Giant Whites. Magnificent plants and flowers, including a very fine stock of Suttons' White Butterfly, are to be seen there. All are seedlings. Cyclamens at Summerhill have been used extensively for house and table decoration during the past month, and are expected to be available until Easter. I find Cyclamens most useful, although I have not reached the high water mark of cultivation attained by the gentlemen whose names I have given.—W. H. W.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Michael, Rev. W. Wilks, Mr. E. F. im Thurn, Rev. G. Henslow, Hon. Sec.

Chinese Cabbage.—Dr. Masters gave some account of this species, *Brassica chinensis*, which is cultivated in China and also in the tropics, where the common Cabbage does not succeed. It has a taller stem, but does not appear to form so sound a "heart" as in our Cabbages. It is the custom to protect the heads in pits, frequently turning them over; they thus provide an excellent supply for winter use. The communication was received from Mr. Carles, Consul at Foochoo.

Kermes Fagi.—This destructive but too common pest of Beech trees was received, with inquiries as to the best means of destroying or preventing it. If the trees are but slightly attacked, spraying with petroleum and soapends in water should be persevered with, repeating the process from time to time. If, however, the trees are too badly attacked, nothing but cutting them down and burning at least the bark can prevent it spreading to other trees.

NEW ZEALAND TROUBLES.

I AM forwarding you per parcel post a small box containing several insect pests which have caused me very much trouble during the last two years, in the faint hope that some of your readers may be able to "locate" the vermin, and indicate a cure. I will describe briefly my troubles and experiences; which, if fully set forth, would occupy many long chapters. I have tried most of the insecticides, which have been recommended in "our Journal," with little success.

The eelworm has been troublesome both in pots and outside, but with applications of lime and kaint I believe it is becoming scarcer. A small round pest, possibly the Hyacinth mite, is destructive on bulbs and cuttings outside, but whether they are the cause or effect of decay I should like to know. A thin white insect with many legs or feet, somewhat resembling a very small wood-louse, except in colour, has swarmed everywhere, and the more unhealthy a plant the more certain are they to be present. Our biologist could give me no information as to their mode of life and habits. Hot water kills them the best of anything I have tried, but is unsafe for general application.

The next trouble is the borer, I suppose a diminutive caterpillar; it has been a terrible scourge, dealing death and destruction everywhere, especially to pot plants. No person here that I have seen knows anything of this pest, its habits or life history. I believe it to be the larvæ of the fever fly, mentioned I think by Mr. Dyke in your columns some time since, for I am pestered with a diminutive fly in myriads; it is thin, about 1/16 inch in length, with shining wings of a metallic blue shade; it hovers round the pots, and, no doubt, deposits its eggs in the soil, which very soon hatch out the caterpillar—a most voracious brute that devours everything in reach, including soil and labels, in quick time. I have traced the larvæ into the pupa state, and seen the fly emerge, so there can be no mistake except as to the name. I can kill the larvæ with hot water 140° Fahr., also with mustard and nitrate of soda, and sometimes the plants also, if not previously killed by the insects; but what of the fly which buzzes everywhere, and may deposit eggs every five minutes? I almost despair of a cure. Maybe, however, as like the philosophical lady who lost her purse, I shall find it when I am not looking for it.

Although my case seems desperate I shall not relax my efforts to conquer. In the hope of destroying this nimble fly inside I have had recourse to frequent fumigation with tobacco, also used insect-destroying powder, painted the hot-water pipes with sulphur, syringed all woodwork and available places with scalding water, but with indifferent success. My last experiment is to pot everything in a compost so tightly compressed as to be impenetrable by the ovipositor of my ubiquitous tormentor. Who can help me in the crusade?—NEW ZEALANDER.

[Though the contents of the box received were most carefully examined, nothing could be found except moss, wood, and soil as dry as dust. It seems a little strange that antipodean entomologists cannot identify the invaders. If the gloomy, yet not despairing, narrative of our correspondent should meet the eyes of the savants, they might perhaps be stimulated to try and solve the problem.

The tormented crusader does not say he has tried nicotine vapour in his plant houses, or strips of tin smeared on both sides with a composition formed of resin and sweet oil melted together, inserting the strips in slits in the tops of small stakes disposed among the plants for the flies to alight on. If they did, and probably would, they would be in a "fix."

The caterpillar must indeed be a "voracious brute" to "devour soil and labels." As to the labels, it might be bothered by giving them two or three coats of tar paint, made with Stockholm tar and petroleum, letting one coat dry before applying the next. Afterwards white oil paint could be used, if desired, for writing on. But "eating the soil" is another matter, and a veritable puzzle. Compressing it might give the gormandiser a little more trouble, but not more, one would think, than is involved in eating label; and what if the larvæ were in the soil when placed in the pots? This is not unlikely, and it might be a wise precaution to bake it, and thus cook both eggs and larvæ, then moisten the mass before using. The catching and cooking processes suggested at least have the merit of safety—i.e., to the plants.

We shall be glad if any of our readers on the top can afford helpful hints to our friend "down under" in this perplexing case.]

FORCED FRUITS AT SYON.

As intimated in my notes on page 449 of the 23rd ult. forced fruits at Syon are, in a measure, as extensively grown as hardy fruits. Early, midseason, and late supplies are expected in succession. Grapes are required very early, and for this purpose low sunk pits are utilised for pot Vines, and others planted out. These are this season started in advance of those in pots, with the object of getting larger bunches and berries than the pot Vines furnish. This arrangement is made by Mr. Wythes, not from choice, but to meet the requirements of the season. These Vines are prepared for forcing on similar lines to that adopted for those in pots, narrow pits being used for planting in, and when forced two seasons, are cleared out and replaced by new canes. The earliest pit is started in October, and others follow in succession to carry on the supply from April onwards. Several houses are devoted to Grapes, the latest being very lofty iron-roofed buildings, old in design, and difficult to manage, still good bunches are annually produced in quantity.

PEACHES AND NECTARINES.—These are extensively grown, and from indoor and outdoor trees a supply is maintained from April until October. Of necessity there is a large number of varieties as well as trees. For early gathering none holds so high a place as Amsden June Peach. This, though the fruits are not of large size, is the most reliable cropper, and very early, with quality superior to some of the early section. Cardinal and Early Rivers are the earliest Nectarines, followed by Lord Napier. Mr. Wythes depends on permanent trees for his early Peaches. Many of the sorts grown for midseason and later use are a repetition of those on the open walls.

STRAWBERRIES.—These are grown in pots to the number of 5000. Of these 3000 are Royal Sovereign, 1000 La Grosse Sucrée, and 1000 President. The plants at the end of September were remarkable for their vigour of foliage and plump crowns, which are kept reduced to single ones, so that fine trusses of flowers are produced in spring. As no Strawberry house is specially provided, the plants occupy shelves in other forcing houses, and are started very early in winter in large successive batches. To deal with such numbers must tax the space at command considerably, extensive as it is.

MELONS.—It need scarcely be said that the supply of these is important, as fruits have to be furnished over a long season. Sunk pits of more than ordinary width are employed for Melons, and the same division is made to furnish a succession by utilising back and front shelves and central pits. Mr. Wythes devotes a good deal of attention to inter-crossing and raising new varieties, and with more than ordinary success. Many, if not all, grown at Syon are of his own raising. They are treated mostly on the cordon system; as this is found to furnish crops the most regularly. At the end of September there were plants in several stages of fruiting, and, in some cases, they appear as vigorous and free rooting as in summer.

CUCUMBERS.—Syon House Prolific is still found the best for winter fruiting, and Mr. Wythes grows his own seed. At the time of my visit there were many dozens of ripening fruits which clearly demonstrated freedom in bearing. Other varieties are sown for the summer, but Syon House alone supplies the winter salad. The order—a large one—is Cucumbers every day in the year.

FIGS.—The early forced trees are in pots. There are three sets of twenty each introduced in succession, the largest being reserved for the later use. St. John's and Pingo de Mel are those which afford the early gatherings and are free bearing. Several others do duty in pots later, Nebian, Negro Largo, and Bourgasotte Grise among them. Some of the fruit houses are furnished with Figs on the back walls, and one of good size is filled with permanent trees.

BANANAS.—Three divisions of a lofty range devoted to these have been growing stately plants until this season, but the demand for other fruits has caused a prospective reduction to two divisions. Bananas, like Figs, are grown some in pots, others planted out, and a good deal of attention has to be given them to obtain ripe fruits over a long season.

The cultivation of Pines has been discontinued, as in many other gardens, the space once occupied by them being devoted to other fruits which are in greater demand. The Vanilla, of which so much was heard, occupies the back wall of one large house, and has been exceptionally fruitful this past season. This is apparently much appreciated at Syon, and certainly the fine plant is an interesting feature of the gardens.

No one making his first visit to Syon could fail to be impressed with the importance and extent of the charge invested in Mr. Wythes, and every department speaks volumes for the discretion which is brought to bear in making the best of the resources of the establishment. What adds to the difficulty of doing so is the glass departments being scattered over such a large area. Much may be seen in the autumn to interest in these extensive gardens, but the spring months should be chosen to see Syon in its best aspect, as forcing, both of fruit, vegetables, and flowers, the two former in particular, is very extensive and varied.—W. S.

THE YOUNG GARDENERS' DOMAIN.

CHINESE PRIMULAS.

As the Mums begin to decline, one looks round and is inclined to wonder what there will be to follow them and brighten the conservatory and room. Happy is the gardener who has good collections of such plants as *Primula sinensis* and *Cyclamens* to tide over the otherwise dull period before the bulk of the bulbs come in.

It is about the former—*Primula sinensis*—I more particularly intend to write now. A small collection to flower during the late autumn and early winter is very useful, as the plants can be used in positions where it would be impossible to use large stock like *Chrysanthemums*, and one who has much to do in the way of house decoration feels the want of small flowering plants very much at this period.

To obtain plants in flower at this season, seeds should be sown early in March. My experience is that such good specimens cannot be obtained from these early sowings as from the later ones, but, in spite of this fact, they are, as I said before, most useful. Successional sowings can be made through March, April, May, and June. The chief sowing, if the majority of the plants are needed in flower at or just after Christmas, should be made about the middle of April.

The seeds should be sown in pans, the soil consisting of the regulation loam, leaf soil, and plenty of sand; they will need only the slightest covering. After soaking, the pans should be put on a shelf, close to the glass, in a warm house, and a piece of glass placed over each to insure uniformity of moisture without much watering. They must be shaded from bright sunshine, which can be done by placing sheets of newspaper over them. As soon as the seedlings are large enough to handle they must be pricked off into other pans; if this is not done in good time they are apt to damp off. A notched stick will be found a useful instrument for this operation, for the tiny seedlings can be manipulated much better and with less risk of injury than with the fingers. The next shift will be into small 60-pots, and when these have become full of roots a final shift into 48's can be made.

After the seed-pan stage they should be kept in a cold frame or cool greenhouse close to the glass, and where plenty of air is obtainable, for it is important to keep them as hardy and sturdy as possible. The plants must not be allowed to become starved, as they never quite recover from the check. Another most important point is thorough drainage, for *Primulas* require a large amount of water during the summer; therefore it is absolutely necessary that the drainage be good. On the other hand they need careful watering during winter, for if kept excessively wet they will certainly damp.

Primulas do not require a great amount of shade during summer. In my opinion, growers are apt to err on the side of too much. The soil for the final potting should consist of two parts of loam, one part of leaf soil, half a part of thoroughly decayed manure, and a good sprinkling of coarse sand. A few crushed bones incorporated with the compost will be beneficial. Care is needed in potting *Primulas* not to get the crowns of the plants too high. If this is done they fall about, and are apt to twist off. On the other hand the crowns must not be buried, but should be just level with the surface of the soil. Care is needed in handling the plants, as the leaves are easily broken, and the loss of foliage is a disfigurement as well as a check. *Primulas* should be kept during winter in a temperature of from 50° to 55° with a rather dry atmosphere. All available ventilation should be given during favourable weather.—S. X.



FRUIT FORCING.

Cherry House.—The trees having been pruned and dressed the house can now be closed for producing Cherries at the close of April or early in May. The treatment should be such as will not excite growth prematurely, therefore only allow a slow progression. A temperature of 40° to 45° at night and 50° by day will need to be maintained by artificial means: When the external conditions are favourable, a few degrees higher may safely be permitted, but anything calculated to bring the trees on too quickly must be carefully guarded against, as undue excitement at the commencement is likely to prove injurious to the crop. Ventilate at 50°, just a little at the apex of the house to insure a change of atmosphere, freely at 55°, allowing an advance to 65°, and closing at 55°. Maintain a moderate amount of atmospheric moisture by syringing occasionally, but in all cases allow the trees to become dry before night. It is highly important that the borders be thoroughly moist, as when the trees are excited into growth fresh roots will speedily follow, and to encourage them moisture, but not suddenness, is absolutely essential. Keep a sharp look out for aphides, and fumigate upon the appearance of the first insect.

Vines.—*Earliest House.*—After the buds break the temperature will need to be increased to 60° at night in mild weather and 55° in severe, gradually increasing it so as to have it at 80° at night when the Vines are in leaf, and 70° to 75° by day with moderate ventilation. If there are evaporation troughs in the house keep them regularly charged with liquid manure. Where these do not exist, and there is no fermenting material, guano, 1 lb. to 20 gallons of water, or the urinary draining of stables and cow houses, diluted with six times the bulk of water, may be sprinkled on the floor and surfaces of borders in the late afternoon, two or three times a week. Vines in pots will require more nourishment as the growth advances, supplying liquid manure at the temperature of the house. Sprinkle the house two or three times a day in clear weather, avoiding

a very close and too damp or a dry atmosphere. Tie up the Vines in position as soon as growth has commenced in the lowest buds, always before the shoots are so long as to be damaged by the process. Dis-budding should not be practised until the fruit shows in the points of the shoots.

Houses to Have Fruit Ripe in May.—The Vines for this purpose must be started without delay, for quite five months are necessary to secure fruit of the early varieties during the winter and spring months. To facilitate this and to save fuel, a bed of stable litter and leaves in equal parts, placed on the floor of the house, turning a portion of it daily, so as to supply ammonia, is useful. The outside border must have the needful protection from cold rain and snow. If the roots of the Vines are mainly inside, a covering of leaves about 6 inches thick, and a little litter over them to prevent them being blown about by wind, will afford the needful protection.

Where the roots are chiefly outside a covering of warm litter after the Vines break will materially assist root action and the supply of nourishment, two-thirds leaves to one-third of stable litter affording a less violent heat, but more lasting, than all manure. The material once put on must be kept at a regular heat by adding fresh as necessary and removing some of the spent. The inside border should be made thoroughly moist, but not soddened, by applying water, or in the case of weakly Vines liquid manure at the mean temperature of the house. It suffices if the soil is moderately moist until the Vines break. Start with a temperature of 50° in severe weather, 55° in mild weather, and 65° by day, except the weather is severe and dull, when 55° will be more suitable. Maintain a moist atmosphere by syringing the Vines and house occasionally, but avoid excessive moisture and keeping the rods dripping wet, for this excites the production of aerial roots from the rods. Depress young canes to the horizontal position or below to cause the buds to break regularly.

Midseason Houses.—The Vines will in most cases be pruned and at rest. If not, the pruning and cleansing of the houses and Vines should be attended to without delay. Where the Grapes are partially cut, the remainder may be removed with a good portion of wood attached, and that inserted in bottles of water with a piece of charcoal in each will keep the Grapes admirably in a dry room from which frost is excluded. This will liberate the Vines for pruning—it being assumed that the leaves are all down—and the house for cleaning, repairs and painting. The Vines ought only to have the loose part removed, be washed with soapy tepid water, and afterwards with an insecticide. If the Vines have been infested with mealy bug, scale, or red spider, wash them with a solution of caustic soda and pearlash, 1 oz. each to 1½ gallon of hot water, in which 4 ozs. of soft-soap has been dissolved, and apply hot (130° to 140°) with a stiffish brush, reaching well into every angle, crevice, and hole. Remove the loose surface soil without disturbing the roots, and supply a top-dressing of fresh loam about a couple of inches thick, and sprinkle over it a good handful of some approved fertiliser.

THE BEE-KEEPER.

HAVE PRICES DETERIORATED?

It may be interesting to bee-keepers at this season to make a comparison between the price of honey at the present time, and the prices that could be obtained before the movable frame hive came into general use. Have prices deteriorated? We answer in the affirmative. The quality of the honey, as a rule, is much higher under the new system than it was when the straw skep held sway. One cannot, however, hide the fact that many bee-keepers through carelessness, or owing to their anxiety to obtain as large a bulk as possible, often place very inferior samples on the market. A bee-keeper with very little experience may soon detect the difference between unripe honey, that will ferment within a few weeks after being taken from the hive.

Whilst on the question of inferior honey, we cannot too strongly impress on bee-keepers the absolute necessity of leaving the honey in the combs until it is thoroughly ripe. The modern frame hive gives every advantage in enlarging the supers on the lines laid down in previous notes, so there should be no excuse for removing the honey before it is in the proper condition for extracting.

It is not surprising that some bee-keepers have a difficulty in finding an outlet for their produce, even at low prices, if the honey to which our attention was recently drawn by a provincial dealer was a fair sample of what is sometimes placed on the market. It is not surprising that extremely low prices are paid for such products. "Prices are not what they were," was the remark passed by a bee-keeper the other day. We agreed with him, but thought it was rather an advantage than otherwise. High prices have the effect of restricting sales, thus placing our produce within the reach of only a few. Increase the output and reduce prices, and this will have the desired effect of placing it within the reach of all.

PRICES OBTAINED.

There is no disguising the fact that many bee-keepers have a great objection to let others know the prices they obtain for their

honey. We have often thought it would probably be an advantage to others if we stated the prices that have come under our notice. In our early days of bee-keeping there was no difficulty in making an average of a shilling a pound for run honey, and as high as 1s. 6d. for honey in the comb; but at that time the quantity was limited, and it was chiefly circulated among retail customers. This was in the days of straw skeps and bell-glasses.

Now all this is changed. Instead of the run honey being obtained from the pollen-laden combs, which usually imparted a somewhat peculiar flavour, and it was often dark in colour, we now obtain all our honey from supers; the queen, brood, and pollen being confined to the brood chamber underneath, the honey from the brood nest never being interfered with. The consequence is a superior sample of honey is obtained, which varies in colour and density according to the flowers from which it is collected.

In addition to having a good sample much will depend on the manner in which it is put up. The most saleable form for run honey is 1 lb. screw top glass jars. These are of English manufacture, costing 12s. 6d. per gross at the works. These should be neatly labelled with the producer's own label, which will be an advertisement, and also a proof of its purity. Obtaining honey in quantity, we have to find customers for it amongst wholesale dealers, the price obtained being 9s. a dozen. Honey in bulk realises from 60s. to 70s. per cwt. There is, however, not such a demand for it in this condition as when bottled and neatly labelled as above.

Comb honey, in 1 lb. sections, well finished and of good colour, realises from 8s. to 10s. per dozen in the trade. The former price is the minimum. Retail they are usually 1s. each. We have not the demand for sections as for run honey, and taking the average of a given number of hives more run honey may be obtained than when working for sections. There is thus a double reason why we work more largely for run honey.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Cucumber Leaves Spotted and Unhealthy (J. R.).—The small white spots have been caused by the bites of some insect, and on the under side of the leaves we found the larvæ of the Lantana bug, *Orthesia insignis*, which somewhat resembles the mealy bug when viewed with the naked eye, being covered with a sort of white meal, especially in the mature stage. The pest must be killed, which is, perhaps, best effected by vaporisation with nicotine on two or three consecutive evenings moderately, as an overdose would be liable to injure the foliage, especially at this season when the leaves are thin and weak in texture. The vaporisation should be repeated in the course of a week, so as to make sure of any pests hatched out from eggs, which are present here and there on the under side of the leaves. Fumigation with tobacco paper also has a destructive effect on the pest, but is not so effectual as nicotine vapour. Spraying with methylated spirit acts promptly upon the insect, but sometimes injuriously on the foliage, hence should be diluted to a safe strength. It can easily be applied by means of sprayers, such as is used by hairdressers, not costing more than two or three shillings. The spray should be very light, a mere film of moisture being better than a drenching.

Cucumber Root Disease (P. P.).—We doubt if the now ancient remedy you mention is obtainable anywhere. If it had been found as generally efficacious as was expected, you may be certain it would be included in nurserymen's and seedmen's lists of garden requisites.

Basic Slag and Kainit for Sandy Clay Soil (A. K.).—We have not found basic cinder phosphate particularly effective on sandy soil unless the soil contained a large amount of humus or animal or vegetable matter. A mixture of 7 cwt. of the phosphate powder and 3 cwt. of kainit per acre would give good results if the land were rich in organic matter; but for your soil we should advise a mixture of equal parts of steamed bonemeal and best quality kainit, applying 5 cwt. of the mixture per acre, or 3½ lbs. per rod now, or as soon as practicable, following early in spring with 2½ cwt. of sulphate of ammonia per acre, or 1½ lb. per rod; or mix the whole together and apply at the middle of February, or as soon afterwards as the state of the ground permits. If your land contains a considerable amount of vegetable matter the manure you name would answer well, and it might also be used for bulbs and Roses outdoors. The best time to apply it would be in the autumn or now. The mixture we advise would be more suitable for plants under glass, reducing the kainit a little. We could give a more complete formula, but the several ingredients are not, as a rule, easily obtainable in small quantities.

Fertiliser for Raspberries (M. & W.).—As you cannot procure stable manure without considerable difficulty, and as Raspberries require considerable humus, we should give a broadcast dressing in the early spring of rape dust or meal. It is a bye-product from oil mills, and should be guaranteed to contain 5½ per cent. of ammonia. Apply 5 to 7½ cwt. per acre. It is preferably harrowed in or covered lightly with soil to prevent loss of ammonia evolved by decomposition. Supplement with the following mixture:—Dissolved bones, dry and crumbling, 9½ parts; muriate of potash, 3 parts; kainit, 4 parts; nitrate of soda, 1½ part; and wood ashes, quite fresh or unbleached, 2 parts=20 parts. Mix thoroughly and apply at once—i.e., not keeping it after mixing, at the rate of 5 to 7½ cwt. per acre. The dressing should be given as soon after the middle of February as the state of the ground permits. One of the simplest and best dressings for small fruits is equal parts of bone superphosphate and kainit 5 cwt. per acre, applied in the early winter preferably, and not later than February, pointing in, then when growth commences in the bushes apply nitrate of soda, crushed fine, 2 cwt. per acre.

Root-pruning Apple Trees (A. M.).—An Apple tree from a seed or pip has, "as some say," three "sets" of roots—tap root, "to hold the tree firm;" large roots, "to create wood;" and small fibrous roots, "to create fruit." The philosophic "some" say, "Don't cut the tap root, cut the large roots, and don't cut the small fibrous roots." Others say "Cut the tap root, and not the large side roots." No wonder you ask, "Could you kindly tell me which is right?" The Apple tree in a state of Nature has a tap root, the continuation of the radicle from the seed or pip, the object of which is no doubt to fix the tree firmly in the ground; but cultivators make Nature subservient to the requirements of man. The stocks for Apple trees are of two kinds—"free," as raised from pips or seeds; and "dwarf," as propagated by cuttings or layers. Only trees raised from seed possess a tap root, and in the case of free stocks the tap roots are shortened in transplanting. This gives rise to lateral or side roots, so that eventually the tree has large roots all round the root stem, and a number of small fibrous roots. But Nature is strong, and sometimes forces the tree to push straight down roots. These descending side roots are often called tap roots. These large side roots may become too strong, and instead of inducing profitable fruit-producing growths, incite the extension of over-luxuriant fruitless branches. When this is so the strong roots require to be shortened for promoting fibrous root formation nearer the stem. The object of this is to induce the tree to produce a mass of fibres in the ameliorated surface soil, as these are conducive to fruit production. In root-pruning some fibres must of necessity be sacrificed, but as far as practicable the small roots with their fibres should be retained intact.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (T. A. C.).—Though we do not, as above indicated, undertake to name "varieties" of plants, including those of *Chrysanthemums*, but only "species," we have no objection to answering your question on a definite point. The blooms sent appear to us to be the true variety you name. A large number of blooms on a plant would account for their being somewhat small. They would be different in exhibition form from crown buds. (C. E.).—1, *Phoenix reclinata*; 2, *Kentia Canterburyana*; 3, *K. Belmoreana*; 4, *Nephrolepis davallioides*; 5, *Lomaria gibba*; 6, *Asplenium viviparum*. (Orchidist).—1, A good spotted form of *Odontoglossum crispum*; 2, *Onclidium varicosum* Rogersi; 3, *O. Forbesi*. (J. E. P.).—*L. chinensis viscaria*.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (Surrey).—Borsdorfer. (L. K.).—1, New Hawthornden; 2, Hollandbury; 3, Golden Russet; 4, Scarlet Pearmain; 5, Bramley's Seedling; 6, Wellington (Dumelow's Seedling). We can only undertake to name six specimens at a time, as you may see on reading the instructions above. (T. T. D.).—1, Ribston Pippin; 2, Beauty of Hants; 3, Northern Greening; 4, Golden Winter Pearmain; 5, Small's Admirable; 6, Tyler's Kernel. (A. L. R.).—1, Cox's Orange Pippin; 2, Bismarck; 3, Newton Wonder. (S. D.).—1, Unknown; 2, possibly Kentish Filbasket; 3, Warner's King; 4, Dumelow's Seedling. (E. P.).—The Apple is probably Golden Harvey, but no one could be certain from the solitary fruit.

COVENT GARDEN MARKET.—DECEMBER 13TH.

AVERAGE WHOLESALE PRICES.—FRUIT.—Trade slow.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3	0	to 5	0	6
" Canadian, barrel	10	0	15	0	10
" Nova Scotian, barrel	10	0	17	0	10
Cobnuts per 100 lb.	60	0	70	0	10
Lemons, case	4	0	15	0	10
Grapes, black	0	6	to 8	0	10
" Muscat	1	0	5	0	10
Melons	0	6	1	6	10
Pears, Californian, case	6	0	9	0	10
Pines, St. Michael's, each	1	0	6	0	10

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	8	0	to 4	0	10
Asparagus, green, bundle	4	0	4	6	10
" giant, bundle	15	0	20	0	10
Beans, Jersey, per lb.	1	0	1	6	10
" French, per lb.	0	4	0	5	10
Beet, Red, doz.	0	6	0	0	10
Cabbages, per tally	7	0	0	0	10
Carrots, per doz.	2	0	8	0	10
Cauliflowers, doz.	2	0	8	0	10
Celery, per bundle	1	0	1	3	10
Cucumbers, doz.	4	0	6	0	10
Eradive, doz.	0	9	1	3	10
Herbs, bunch	0	2	0	0	10
Leeks, bunch	0	8	0	0	10
Lettuce, doz.	0	6	0	10	10
Mushrooms, lb.	1	8	1	6	10
Mustard and Cress, punnet	0	2	0	0	10
Onions, bag, about 1 cwt.	4	0	4	6	10
Parsley, doz. bunches	2	0	4	6	10
Potatoes, cwt.	2	0	6	0	10
Seakale, doz. baskets	18	0	21	0	10
Shallots, lb.	0	8	0	0	10
Spinach, per bushel	2	0	4	0	10
Tomatoes, per doz. lbs.	2	0	5	0	10
Turnips, bunch	0	8	6	4	10

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bunches	2	6	to 5	0	10
Arums	8	0	10	0	10
Asparagus, Fern, bunch	2	0	2	6	10
Carnations, 12 blooms	2	6	3	6	10
Cattleyas, per doz.	12	0	24	0	10
Christmas Roses, doz.	1	6	2	6	10
Chrysanthemums, white	6	0	9	0	10
" doz. blooms	6	0	8	0	10
" yellow doz. blooms	5	0	8	0	10
" bunches var.	0	6	1	6	10
Eucharis, doz.	6	0	8	0	10
Gardenias, doz.	6	0	8	0	10
Geranium, scarlet, doz.	6	0	12	0	10
" bunch	6	0	12	0	10
Lilac, white, bundle	6	0	8	0	10
Lilium Harrisii, 12 blooms	12	0	18	0	10
" lancifolium album	8	6	4	6	10
" rubrum	8	6	4	6	10
" longiflorum, 12 blooms	8	0	12	0	10
Lily of the Valley, 12 bun.	18	0	24	0	10
Maidenhair Fern, doz. bunch	6	0	to 8	0	10
Marguerites, doz. bunch	3	0	4	0	10
" Yellow, doz. bunch	6	0	9	0	10
Mimosa, per bunch	2	6	8	6	10
Mignonette, doz. bunches	6	0	8	0	10
Narcissus, white, doz. bun.	2	6	6	0	10
" Yellow, doz. bunches	3	0	5	0	10
" double, doz. bunches	2	6	4	6	10
Odontoglossums	5	0	7	6	10
Pelargonium, doz. bunch	8	0	12	0	10
Poinsettias, doz.	15	0	24	0	10
Roses (indoor), doz.	6	0	8	0	10
" Red, doz.	6	0	8	0	10
" Safrano, packet	2	0	3	0	10
" Tea, white, doz.	8	6	6	0	10
" Yellow, doz. (Perles)	5	0	7	6	10
Smilax, bunch	5	0	7	6	10
Violets, Parma, bunch	6	0	8	0	10
" dark, French, doz.	1	9	3	6	10
" English, doz.	1	6	3	6	10

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vite, var., doz.	6	0	to 8	6	0
Arums, per doz.	18	0	24	0	10
Aspidistra, doz.	18	0	8	6	10
Aspidistra, specimen	15	0	20	0	10
Chrysanthemums, per doz.	6	0	12	0	10
Orotone, doz.	18	0	8	0	10
Dracena, var., doz.	12	0	8	0	10
Dracena viridis, doz.	9	0	18	0	10
Erica various, doz.	30	0	60	0	10
Eucynurus, var., doz.	6	0	18	0	10
Evergreens, var., doz.	4	0	18	0	10
Ferns, var., d-z.	4	0	18	0	10
Ferns small, 100	4	0	8	0	10
Ficus elastica, each	1	6	to 7	6	10
Foliage plants, var., each	1	0	5	0	10
Lily of Valley, per pot	1	6	2	6	10
Hyacinths, Roman, per pot	1	6	3	6	10
Lycopodiums, doz.	3	0	6	0	10
Marguerite Daisy, doz.	10	0	18	0	10
Myrtles, doz.	6	0	9	0	10
Palms, in var., each	1	0	15	0	10
" specimens	21	0	68	0	10
Poinsettias, per doz.	15	0	26	0	10
Salvias, scarlet, doz.	6	0	12	0	10
Solanums, per doz.	9	0	18	0	10

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. Brian Wynne, 8, Danes Inn, Strand, London, W.C.



WHERE TO SATISFY LAND HUNGER.

It is a curious provision in man's nature that he has always more or less of a craving for a bit of "Mother Earth." We are of the earth earthy, and nothing but death will eradicate the craving. We do not care altogether so much about founding a family, but we do like a bit of land we can call our own. This desire to be landed proprietors cuts many ways. It is conducive to habits of frugality and thrift, and those are good habits, provided they are not exaggerated. Our readers will follow us. It is not good to starve mind and body; to stunt and make hard the lives of our wives and children; to beat down our servants' wages to the lowest market value to enable us to add acre to acre and field to field.

Happy is that man who strikes the medium; he has not made his own life a burden, and he has proved to others, his relatives and dependants that scraping and saving was not the whole end or aim of life. We have seen much disastrous land buying, and the disaster could not have been foreseen or prepared for. There has always been a feeling that land was a good investment for savings, inasmuch as it could not run away, could not break like a bank, and did not need as house property does constant and costly repairs. The saleable area in England is limited. A vast amount of land is in the hands of great families, and never by any chance in the market, save in those cases where the noble owners have completely collapsed; and then, as a rule, the property is bought as it stands by some modern millionaire. There are a few noblemen who wisely "square" their estates and make them less unwieldy by selling off outlying portions, but these portions are not often of the best.

Many great men have practically ruined themselves, and laid fearful burdens on unborn generations, by buying up at prohibitive prices all land adjacent to their own, without any other thought than the driving off of tiresome neighbours. To have an estate in a "ring fence" is all very well, but that "ring fence" may be acquired far too dearly. Better be content with less, if that less be clear from the "monkey," and there be a trifle in hand to meet the exigencies that will arise sooner or later. Even the best of land during late years has been subjected to depreciation in value, and rents have had to be lowered. If this is the case in "the green tree," what about the withered? What about that land that was bought far too dearly and then heavily burdened by mortgage? The wretched pseudo-owner is in the most terrible fix; not enough rent coming in to pay the interest, and if the property is sold there will not be money enough to pay off the mortgagee. There are hundreds of men at this moment just struggling on from hand to mouth, hoping against hope, and trusting that things may just last out their day. This land-buying mania has broken up many an otherwise happy home and ruined many a thrifty hard-working man. Bad land is dear at a gift, and good land wants buying with the greatest judgment and acumen.

Now as buying land in England is attended with much risk and great uncertainty, the question is, Can the land hunger be satisfied anywhere? We are without personal experience in the matter, but we have relations who have been most successful land buyers in

S. Australia—that is some years ago—and our attention has been directed of late to New South Wales as a likely district for energetic, hardworking farmers.

There is much to be said for N.S.W. as regards climate. Many people would direct our attention to Canada as a field for emigration. We have nothing to urge against that; it is English ground and an English-speaking people. The great set-off in our minds is the long and severe winter, and the dangers of late and early (very early) frosts. Of course, too, it is a trifle nearer, the voyage across the Atlantic—but we have long thought that the more equable climate of N.S.W. more than compensated for the longer distance from "home," and we should decidedly think, where stock farming is preferred, N.S.W. would come a long way before Canada and the N.W. provinces.

It appears from information supplied that the State holds a large quantity of land, and it is the object of the State to let or sell that land to the best advantage to the best customers. The State divides its land into pastoral or arable districts, as may be most desirable, and allows no indiscriminate mixture as formerly. The idea is to discourage the mere speculator, and to help on in every possible way the man who really means to live on and by the land. Certain conditions are laid down by the executive, and the land is forfeit if these conditions are not fulfilled. Extension of time for payments is allowed when circumstances point to the desirability of tempering justice with mercy.

During 1898 the Land Board dealt with 1081 applicants for homestead selections, and the demand continues steady and satisfactory. Land suitable for mixed farming seems to be most in request. "The conditions of lease or purchase are so varied that the convenience of almost every class of settler becomes readily met. The main principle underlying the system appears to be the prevention of occupiers obtaining by lease or purchase more land than they can profitably turn to account. Care is taken that the available lands shall not be thrown open if there is no apparent demand for them."

When we read of 786,773 acres being let for £2040 19s. 2d., we cannot say the rent is high; and again 378,547 acres for £1023 16s. does not seem excessive.

It is always better to live under a great landlord than under a small one, under a corporation rather than an individual, and it assuredly must be better to live under a wise and generous land department of a great government.

Australia has a great future before her, and possesses in esse and in posse greater riches from her fertile lands than ever her gold mines yielded. There is not such risk of life and limb in the pursuit of this wealth. The fever does not run so high, neither can the prostration be so great. The former was a wild mad race for riches. Enormous fortunes may not be made at the latter, but the conditions of life will be healthier and better.

WORK ON THE HOME FARM.

The Martinmas hirings are over and many farmers in the Midlands and North are wondering how farm work is to be carried on. The scarcity of married men has been intensified by the very independent spirit of the young fellows this Martinmas. We have just returned from a Yorkshire visit, and everywhere heard the same complaint. The lads either intend to give up farm service altogether, or they contemplate a good long holiday before dictating their own terms to the masters.

No doubt there has been more than the usual amount of military enlistment, but probably the ignis fatuus of town life is the greater attracting power.

At one statute fair a large farmer with vacancies for five men, could only find one youth who desired an engagement. A bargain was struck, but the farmer received the fastenpenny back by next morning's post. At present on many farms the labourers who should be hedging are required to work the horses. Thrashing must stand over until later, which may prove a blessing in disguise, as it may clear the markets and stiffen prices.

The later sown Wheats are peeping through, and will soon be safe from the rooks, but larks are, as usual, making bad work. It is incredible

what mischief they can do. We have seen many a field of Wheat absolutely ruined. The worst points about the matter are that tenting is of little use, and the birds are not our summer songsters, but immigrants from abroad that have recently arrived.

Potatoes are being moved off pretty freely where the hands are available for the necessary sorting process. The machine riddles are invaluable, nay, almost indispensable. Buyers highly approve of their use, for the samples made by them are so much more even and reliable than those sorted by hand. Disease is very prevalent, and quality, i.e., cooking quality, far from good. Few samples will pass muster when cooled down after cooking.

The entries of fat stock for the Christmas markets are very small indeed, and there is every prospect of high prices being realised; 8d. per lb. will almost certainly be obtained for good beef. Foreign arrivals are light, and high prices are being asked.

IMPROVEMENT OF LAND ACT, 1899.

(62 & 63 Vict. c. 46.)

THE Board of Agriculture desire to call attention to the provisions of the Improvement of Land Act, 1899, which comes into operation on 1st January, 1900. This Act has been passed with a view to give increased facilities to owners of land desirous of carrying out agricultural and other improvements with the aid of borrowed money. With this object the new Statute amends the Improvement of Land Act, 1864, and other Acts authorising the creation of rentcharges for the improvement of land.

Under the new Act the maximum period over which rentcharges authorised after the commencement of the Act may be allowed to extend is forty years. It must not, however, be assumed that the full term will always be applicable. The period to be allowed in each case will be determined by the Board, regard being had to the character and probable duration of the improvement.

By another provision the land charged with the payment of the rentcharge may be land other than that which is directly improved; provided (a) that such other land is shown to the satisfaction of the Board, by statutory declaration, to be held for the same estates or interests, and to be either subject to the same incumbrances (if any) or to be free from incumbrances; and (b) that in the opinion of the Board such other land may properly be included in the charge.

Improvement Companies are empowered (by resolution passed by three-fourths of their shareholders present at an extraordinary meeting) to adopt, as improvements authorised by their own special Acts, all or any of the improvements authorised by the Improvement of Land Act, 1864, or by any enactment amending it.

The Board of Agriculture are empowered to extend the period of repayment of improvement charges created (whether before or after the passing of the Act) in respect of the planting of woods or trees, on application made by the landowner, not sooner than seven and not later than ten years from the date of the Order creating the charge, but subject to the consent of the persons entitled to the charge.

The new Act extends to Scotland certain additional improvements already authorised as regards England and Wales and Ireland by the Limited Owners Residences Acts, 1870 and 1871; the Limited Owners Reservoirs and Water Supply Further Facilities Act, 1877; Sections 30 and 25 of the Settled Land Act, 1882; Section 13 of the Settled Land Act, 1890; and Section 74, sub-s. (1) (b) of the Housing of the Working Classes Act, 1890.—*The Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W.*

OUR LETTER BOX.

Curing Hams for Smoking (*J. B., Berks*).—This is, perhaps, the recipe that you once copied out of this Journal, but now lost:—"For a ham of 20 lbs. make a pickle with 2 lbs. of salt, 3 oas. saltpetre, 3 oas. bay salt, 3 oas. shallots, 1 oz. coriander seed, 1 oz. juniper berries, 4 lbs. treacle, and $\frac{1}{2}$ lb. of beef suet. Use enough water to cover the hams, keep them in pickle for a month, then smoke them for a month." Some persons consider hams so prepared delicious, others prefer them plain cured and not smoked.

Applied Science (*Constant Reader*).—Hard and fast rules as to profitable manuring are of no use. What suits one crop may not suit another besides which the mechanical condition of the soil and its cleanliness or otherwise may make all the difference between individual cases. Farmyard manure is valuable and a great restorer of fertility to poor land, and no farmer should despise it when readily available, but if British agriculture had gone without the assistance of artificials for the last twenty years we fear it would have collapsed altogether. Artificials have never been more than useful adjuncts, substitutes only in extreme cases. Give your Wheat and Beans 8 cwt. of superphosphate per acre early in February, and give the Wheat 1 cwt. per acre of nitrate of soda and 2 cwt. per acre common salt mixed together early in April.

Cow-house Space (*Reader*).—If you had been able to give the date of the article to which you refer we should comply with your request with pleasure. There has (with justice) been much talk of over-crowded cow-houses, and some local authorities are insisting that each cow shall have 800 cubic feet. This to us appears far too much, and would necessitate tremendous expense. Primrose McConnell says that 600, or even 400, cubic feet is quite enough for health purposes. A cow-house

should be airy but not draughty, and should, if possible, be so arranged that the cows can be fed at the head—i.e., a passage in front of the stalls; it is less disturbing and more convenient. If cows are in the daytime turned into a warm yard they do not need so much space as those which are tied up constantly. The subject will, perhaps, be more fully referred to in a future issue.

COLOURING MARGARINE.—The colour of margarine to make it resemble butter is now, we learn from a contemporary, strictly prohibited over the greater portion of the United States. Where the anti-colouring law is in force all that is necessary in order to secure a conviction is to show that the suspected substance is not pure butter. It is a pity that the British Government, in the interests of the dairy industry of the United Kingdom, cannot see its way to the adoption of a regulation to the same effect for these countries.

SHEEP IN ORCHARDS.—Dr. Galen Wilson writes in the "Practical Farmer" (America) that he has been giving particular attention to the results of allowing sheep in the orchards. He has visited many orchards this autumn where they were kept and where they were not, and he has a daily report from a man who is engaged in packing Apples for market in orchards in that and adjoining townships, and as he knows which orchard sheep are kept in and which they are not in, and he obtains reports of yield and quality of the fruit in each, a summary of his observations and these reports show that where orchards have been persistently pastured with sheep they have yielded much heavier crops and larger, fairer fruit, less troubled with insects. In some cases they have borne freely every year, while others, in apparently as good locations, have borne only occasionally.

POTATOES AS CATTLE-FOOD.—The Potato crop this year has been such a bumper one in some parts of New Zealand that the homely tuber has become quite a drug in the market. But rather than allow the excess crop to go to waste, the farmers have been feeding their cattle on Potatoes with very beneficial results. The "Canterbury Times" (New Zealand) says: "A number of farmers have taken to feeding their stock with Potatoes on account of the low price ruling for them, and most of those who have made the experiment state that some difficulty was experienced at first in getting the stock to eat the Potatoes, but that now the horses, cows and sheep look for their daily ration, which they devour with avidity. The coats of a number of farm horses and hacks, which have been liberally supplied with potatoes for the past month or so, look beautifully sleek, and fed with oatmeal, potatoes and bran, the animals are in good hard condition."—(*Indian Gardening*.)

WINTER EGG PRODUCTION.—I heard the other day that after all, we might overdo the poultry keeping. All I can say is that we cannot at present overdo the production of new-laid eggs in November. Even in October this year eggs have been selling at six for 1s., and they will be dearer still. Naturally the dearness means that large numbers of careful housekeepers avoid eggs, and substitute cheaper foods. Therefore, there is still a very large place for more new-laid eggs, which there is no prospect at present of being occupied. Of course, it is too late to remedy the difficulty this season. The eggs are not there; the pullets are not there to produce them. What we have to consider, says a writer in the "Farmer and Stock-breeder," is the best way of bringing the supply up better next year. Let us, therefore, get our pens mated up, and our plans put in order for a good season in the spring. Where there is plenty of room, there is certain profit in rearing strong, good, laying pullets.

CHILD LABOUR.—The law may at times be "a hass," but occasionally it is possible to forgive its asinine eccentricities. Public commendation will naturally be extended to those Lincolnshire magistrates who recently inflicted such lenient fines upon farmers for illegally employing children as Potato pickers. We recently referred to the dearth of labour in this department of the agricultural work, and expressed our sympathy with those farmers who are face to face with a somewhat serious difficulty. In order to save their crops, we presume they had recourse to child labour. Now, it seems, they have been summoned by the local School Board, and the magistrates, recognising the mitigating circumstances, imposed the minimum fine of one shilling, without costs. The School Board contends that such penalties render the prosecution a farce, and have appealed to the Education Department. Let us hope that this department will acquiesce in the magisterial decisions, and will interpret the insignificance of the fines as a sympathetic appreciation of a labour difficulty, and not as an attempt to obstruct or discourage the administration of the education laws.—(*Rural World*.)

THE IMPORTANCE OF FINE TILTH.—There are many reasons which render it desirable to have land reduced to as fine a state of tilth as practicable before proceeding to sow seed in it. One of these reasons is because a fine state of tilth enables the seed to be more uniformly distributed and more evenly covered; another and a still more important reason, perhaps, is because it is essential to have the soil about the seeds in as fine a condition as possible at the time the seeds are sprouting, so as to enable the young plants to take advantage of the plant food present in the soil. The finer the condition to which the soil is reduced, says an Irish contemporary, the more readily will the tender roots of the germinating plants be able to find their food amongst them, and the better the opportunity they will have for absorbing the plant food which is essential to their growth. For a time after germinating the plant is capable of living on the substance contained in the seed, but this store of reserve material very soon becomes exhausted, and it is then that the plant food in the soil becomes so necessary to enable the plant to go on with its growth.

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LAGGING BEHIND.

WE have received a mass of literature from the New Zealand Department of Agriculture in the form of "Reports," mainly by Mr. T. W. Kirk, F.R.M.S., F.L.S., which are distributed for the benefit of gardeners, fruit growers, and farmers. The thoroughness with which the work is done is very apparent, and information is disseminated on a host of subjects, which cannot fail to be of great value to those for whom it is intended. Something of the same kind is done by the Agricultural Department of our own Government in the form of leaflets periodically issued on the enemies of fruit and other crops, but many of these are apparently, in a large degree at least, compilations from various sources, and not founded on original research by officials of the department. Similar remarks may, perhaps, apply to some extent to the New Zealand reports, still these are the more complete and comprehensive.

Some of our colonies would seem to be forging ahead of the mother country in the thoroughness of the investigation into matters pertaining to various plants and crops, their cultivation and their enemies, as are the United States and Germany; and it is noticeable that not a few scientists at home are indebted for much of the information they distribute, to investigators in those countries where there are greater facilities for acquiring it than in our own. It is better to have it, or much of it, in second-hand form than not at all, but it would be not the less interesting or useful if its source were more generally acknowledged.

It is true we have sundry agricultural colleges and stations in Britain, in connection with which it may be freely conceded valuable work has been done and exact knowledge gained and circulated. We have also the grand botanical establishment of Kew—a very fount of knowledge and museum of plant life and economy, from which aid and information of enormous practical value have been imparted to some of our colonies, as well as in various ways and aspects at home. Kew is, in fact, the sun and centre of the vegetable kingdom regarded in its scientific, ornamental, and economic

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aspects; but beyond the work of its great domain there is much that needs to be done that cannot be done there, for its natural resources forbid, yet which ought to be done for the benefit of our ever-growing population—we mean, of course, in practical horticulture.

England should become more and more, of necessity by degrees, a great productive garden. The resources of its soil should be developed and made to yield to the fullest possible extent those requirements of life that are outside the region of agriculture, in the form of wholesome food and of all that ministers to home enjoyment, be those homes large or small. We have no nationally supported centre of light or seat of learning in horticulture; no field of experiments and practical demonstrations conducted on exact lines, and of adequate scope, to meet the great desideratum. Yet we boast of being the richest nation in the world, and perhaps we are, broadly speaking, though in some respects we rank among the poorest—namely, in sound instructional methods by which the nation might and should be enriched, and the condition of its inhabitants improved by the garden cultivation of the soil.

We have what may be described as local teaching here and there, and great good has been done and will be done for those for whom such teaching is provided. As a matter of fact, the results obtained are so striking that they prove to demonstration how great and wide are future possibilities, and how absolutely certain are good results to flow from sound methods. This local teaching is for the benefit of the young, as well as of adult manual workers, and could only be satisfactorily conducted under the auspices of local authorities. Still it shows the more clearly a great national want—an authoritative, well-equipped, and adequately supported station of scientific horticulture in its widest scope and most varied aspects.

We have had a sort of apology for this at Chiswick, but only an apology of late, in comparison with what a national establishment should be. These remarks, it may be needless to say, are not intended to be, and cannot be regarded as any sort of reproach to the controllers of Chiswick; all has been done that could be done there of late years, and less rather than more will be done in the future. Buildings have been creeping onwards toward the garden for years, till it is hemmed in on all sides. The necessary deep drainage system has dried it out. It is nothing more than a town garden now, and very often is more suggestive of a smoke and fog trap than anything else. Though we say it with a feeling of regret, having regard to old associations, we are bound to recognise the obdurate fact that Chiswick as a useful experimental garden is worn out.

With an open country field of 20 or 30 acres of substantial soil in the country far more substantial good might be done, even without any glass, than can now be done at Chiswick with all its scattered and mostly out of date structures, and it is certain the R.H.S. will have to leave the old garden to its fate before many years are over. As a matter of fact there may be no choice, as it is extremely unlikely that a renewal of the rapidly expiring lease would be granted even if it were required—a very unlikely contingency.

The Royal Horticultural Society can, no doubt, if it so determine, establish a new garden elsewhere, equip it fairly well, and conduct it for its own purposes. While those purposes have for their object the advancement of horticulture, it seems to us that this cannot be done in anything like the complete manner that is desirable with its own resources alone. Horticulture is a great and growing industry, and its successful prosecution is a matter of the utmost national importance. The value of the land in rural districts can only be maintained and increased by superior cultivation, and it is impossible to place too much sound information at the disposal of all who are identified with it.

If special Government aid is requisite in comparatively new countries can it be less so in the old where land values are decreasing and the population ever increasing? Our Agricultural Department appears to recognise the desirability of grants in aid for educational purposes, and makes them in a gingerly sort of way, even, it is said, to an establishment of a speculative character. Why cannot a substantial grant be made to a great central authority for the

establishment of a complete horticultural experimental station for the benefit of the whole community?

We are living in utilitarian days, and substantial results arising from the art of cultivation will be more and more expected. Not a comparatively few, as is the case now, but the greatest possible number of owners, directors, and workers of the land require sound information that can only be obtained from experiments conducted on a scientific basis. With the means afforded a station could be established not of less value than Kew is, but in a different and equally important, and, to thousands, more important direction:

The knowledge, moreover, acquired at such a station should be free to all who need it, just as is the case in America and some of our large Colonies. So free is this collated information that all the horticultural journals in the world are at liberty to reproduce it, illustrations and all, if they like. We may, perhaps, give a sample or two one of these days. This free distribution of specific information cannot be done by a corporate society alone, however strong. It can only produce its Journal for its own Fellows, and this by making it a trade medium, which is not quite an ennobling position for any Royal Society. Happily Kew is under no such necessity, and hence its commanding authority.

With Government co-operation there would be ample matter for a Journal of Transactions for the Fellows, plus reports and deductions for public use. If it be urged the public have this now in the form of "leaflets," prepared necessarily at considerable cost, it can be said, because felt, that these carry with them small authority, because those into whose hands they fall know not by whom and from whence the matter has been gleaned. A strong, recognised, and trusted authority with a substantial material base of operations is the great want of the times, and this provided both agriculture and horticulture would be continuously benefited. In educational matters of the important nature indicated, we, as a nation, have been too long lagging behind.

THE CINERARIA.

AT the last fortnightly meeting of the Kingston and District Gardeners' Mutual Improvement Society, Mr. Nield read a paper on the "Cineraria," dealing fully with the florists' varieties developed from the species *orientalis*. These plants require care and attention to insure success. The chief points in the paper were as follows:—Sow seeds according to requirements from April till July to produce flowers in November and December, and again the following March and April. The temperature for the early sowing should be about 60°, but later sowings will not require artificial aid beyond the cool greenhouse or a frame.

The seeds should be sown in pans filled with a mixture of loam, leaf soil, and sand, covering them with sand; place a sheet of glass over the pan and shade with paper. Put the seedlings when large enough in thumb pots or 60's, and shade carefully. Place these in cold frames as soon as weather permits, giving air plentifully, but avoiding draughts. During most of the growing season the best position for the plants is the north side of a wall; but in any case allow the pots to stand on a moist base screened from too much sun.

Pot the plants as necessary till they reach the 6-inch size. Large specimens may be grown in 8-inch pots; but the former is a useful size, while capital plants may also be produced in 4½-inch pots. Remove all side shoots if fine blooms are required, although secondary growths will produce an additional supply of small trusses of bloom for cutting purposes. For the final potting use a compost of three parts loam to one of leaf soil, with sand or rubble, and add half a pint of superphosphate of lime to each bushel of soil.

The plants should be fully exposed during August and September. House the earliest in October, but leave the late ones in the cold frame until frost sets in, when they should be placed on a greenhouse shelf or a moist stage as close to the glass as possible. Manuring is not necessary until the flower spikes appear, when soot water may be given, this was found to be the safest and best manure the lecturer had tried.

A remedy for most of the evils to which the plant is subject is found in sulphide of potassium used at the rate of ½ oz. to 1½ gallon of water. If the plants are sprayed with this, trouble with the leaf-miner grub and red spider will be prevented; it is sudden death to green fly, and almost as bad for the disease appearing as red rust which troubles many growers.—J. T. BLENCOWE.

EVERGREENS FOR CHRISTMAS.

IN spite of the fact that we are continually being reminded about the changes of fashion, there are some customs, old even in history, which we seem to cling to with a mutual tenacity, and one of them is the annual Christmas decoration. The spirit is a national one, extending from peer to peasant, and in the lowliest cottage home at Christmas time there is something wanting in the absence of a few sprigs of Mistletoe, Holly, or other greenery. The provision of the country's Yuletide decorations is no small matter when we consider the demand, and remember that there are thousands and thousands of would-be decorators who have no means of obtaining their material except by purchase. The adornment of country mansions is the part of this great business which most closely concerns gardeners, but it is only a small section of it, and as the material for this purpose is home supplied, it has nothing to do with the commercial aspect of the matter.

It is this aspect, however, that concerns a greater community, for the wholesale and retail supply of Christmas decorative material is a business of great proportions, and one that is sure to come as the festive season rolls round. Without going into statistics, take London as an instance. For a few weeks before Christmas Covent Garden Market assumes its annual Yuletide garb, and, to say nothing of the crates of Mistletoe, mountains of English-cut evergreens are piled up, only to disappear almost as quickly and be replaced by fresh consignments. Trade ebbs and flows in the meantime, but it never ceases till the last hour of Christmas Eve, when from the great centre the evergreens have been distributed in this direction and in that, and then it is all over for another year. London is, no doubt, the greatest centre for the Christmas decoration trade, but it is not the only one, for in every crowded town all over the country the same sort of thing goes on, till one might be disposed to say, Where does all the stuff come from year after year?

It would be a long and difficult task to answer that question, but I can supply a unit, because for several years I was engaged in the cutting and despatch of thousands of bundles of evergreens annually for the supply of the Christmas decorations for Manchester and the district. Shude Hill Market in Cottonopolis is always a busy place, particularly so at Christmas time, for it is to the surrounding manufacturing towns something like what Covent Garden is to London. Retailers from the Lancashire towns flock into Manchester to buy at the wholesale markets, and it is to supply not only the city itself but the surrounding districts that thousands of bundles of evergreens are despatched every year before Christmas to this busy centre. For this market alone an army of men must be engaged, considering the labour of cutting, tying, carting, railway transfer, and wholesale and retail selling.

With us the cutting was more or less a case of necessity, because in the many acres of garden and woodland shrubs and Conifers grew with a marked profusion, and there was the tendency towards overcrowding and obscuring a hundred charming views. As the cuttings from these trees and shrubs were of the right material for Christmas decoration, the idea was conceived to do the annual trimming at this time of the year, and benefit from the commercial value of that which otherwise would have gone to the fire-heap, or to decay in some out of the way corner of the woods. Holly, Yew, Laurel, Box, and Ivy are always in demand for Christmas adornment, and as these were represented in quantity they formed the chief material used in the bundles.

About three weeks before Christmas the work commenced, the cutting part of the business being in the hands of a few experienced workmen. The advisability of this will be observed, because it would be ruinous to give any labourer a free hand to do what he liked with a Holly or Yew tree, or a breadth of Laurels. In the hands of good workmen, however, the case was different, and the periodical pruning had the effect of keeping the trees and shrubs in good shape and restricted form, as far as was necessary. Two or three helpers were told off to follow the cutters and pick up the prunings, which were carted away to a certain centre until sufficient material was collected to commence tying. Ivy was very abundant, growing on the rocks and ruins, chiefly of the thick bushy form bearing berries, and the demand for this was always good. Returns, of course, were ruled by the general supply. Abundance of berries on the Holly always affects the market, but when this material is scarce those who are fortunate enough to have it have never to look long for buyers. With us the common *Rhododendron ponticum* was little more than a weed, so profusely did it grow in the woods, but it was of no use for the Christmas trade. The foliage turns limp and droops soon after cutting, and buyers quickly found that it would not stand the gas. Christmas decoration material is just like other produce in this respect. It is useless trying to force things on the market, and if one cannot supply what the buyers require it is better to leave the matter alone.

Tying commenced a few days prior to sending the first consignment to market, and this work was put in the hands of men who showed an adaptability for it. It was necessary in the first place that

the bundles should be lightly yet firmly tied, even all through, and with the material showing itself to the best advantage. Buyers of evergreens soon find out whether consignments are equal to sample, and purchase where they have confidence. Mixed bundles were the general rule, containing sprays of Holly, with berries if obtainable, Laurel, Ivy, Box and Yew, though "kids" of each of these materials were made up separately. It very soon became apparent who were the right men for the tying, from the taste some displayed in the work compared with others, and even with evergreens there is much in showing the material to the best advantage.

About a fortnight before Christmas the first truck load usually left for Manchester accompanied by a trustworthy representative to act as salesman, and from then till the short season was over it was generally a time of rush. Trade was not always the same, of course; sometimes there was a glut of evergreens for a few days, and things fell flat; and again in times of fog, traffic became congested, and there was difficulty in getting the material into the market. These and other matters had bearing on the trade, and the most business done was the week preceding Christmas. Orders then were generally heavy and frequent, and cutting, tying, and despatching went on at express rate till about the day before Christmas Eve, when the order usually came to stop sending.

It was all over then for another year, but during the fortnight some thousands of bundles of decorative material had passed out of hand and been dispersed by wholesaler and retailer over a wide area. This, of course, was only the trade of one producer to one market, and when one considers how many others there are engaged in the evergreen business during the few weeks preceding Christmas to provide for the demands of London, Manchester, and other thickly populated centres, one may well wonder where the stuff comes from.—H. H.

EARLY FLOWERING SHRUBS.

I QUITE agree with "Wanderer" (page 474) that early flowering shrubs are not nearly sufficiently employed in gardens. It is far better to plant more flowering stock than so many of the evergreen species, which, useful as they are in winter, may be so overplanted as to become quite funereal. For the use of intending planters of flowering shrubs I have jotted down the names of a dozen that are well worthy of special attention in any garden, large or small. When planting them do not forget that the wealth of blossom expected is not obtained by "shoving 'em in" as "Westerner" says (page 468), but by judicious preparation of the soil, such as deep digging, or what is better, trenching, and adding manure freely. Too many persons think that because they are shrubs, and not fruit trees, they require no stimulating food whatever.

Exochorda grandiflora, commonly known as the Pearl Bush, is too seldom seen in large, let alone small gardens. Given a sunny position with ample room to develop, a full crop of its snow white circular blossoms are assured in May. *Berberis Darwini* is so showy in a mass in the shrubbery, or singly on a lawn, or even as a hedge it is so satisfactory that I cannot omit it from a select twelve.

Deutzia candidissima flore-plena, with its pure white blossoms in such masses as it ordinarily produces when given fair treatment, I regard as the best of the genus. Of *Magnolias* I must include one, and this shall be *purpurea*, which is a form of conspicuous, and as near like *M. c. Soulangeana* as possible. *Purpurea* is a little later in flowering than the type, therefore more often missing late spring frosts. On the grass or in the shrubbery *Magnolias* are always appreciated. *Kerria japonica fl.-pl.* gives a profusion of orange coloured blooms early in spring and lasts so long in flower that it must not be omitted.

The Mock Oranges should be represented, and as one only can be named, this must be the giant flowering *Gordonia*, with its huge blossoms that are so much more useful for cutting than the ordinary small flowered *coronaria*. The *Pyrus* family cannot be ignored. The double flowered form of *spectabilis rosea* is decidedly the most showy. *Spiræas* are such a large family that it is an invidious act to select one only. The small double flowered white form of *Reevesiana* I prefer. The growth of this is less rampant than many, and is therefore better suited to small gardens.

It would not be a complete list even of twelve to omit *Lilacs* entirely. The best of all is *Madame Lemoine*. Not only is the growth free and vigorous, but the double white blossoms last a long time in perfection. Charles X. I look upon as the most useful of single *Lilacs*. Not only is it of vigorous growth, but it annually flowers in great profusion, and lasts longer in condition than some.

Prunus Pissardi is most useful in early spring in providing the shrubbery with early flowers, and its deep bronzy tint of leaf, so showy at the end of summer and autumn, and it must be included. Paul's double scarlet Thorn completes the list. For a fairly sized garden fifty are none too many, and a selection of this length would be much more to my liking.—E. M.

POTATOES BLACKENING WHEN BOILED.

REGARDING the vexed question of the discolouration of Potatoes when in the process of cooking (or immediately afterwards, when it is the more apparent), the fact that recently a dish of Up-to-Date came under my notice, and two or three of the finest tubers were much blackened, brought to mind the paragraph on the subject in the *Journal of Horticulture*, November 17th, 1898, page 375, in the proceedings of a meeting of the Royal Horticultural Society's meeting, held on November 8th, to the effect that "Mr. Richard Morse forwarded raw and cooked Potatoes to show the difference in those cooked as grown in a field and in the garden.

"The latter were much blackened, but not the former. They were the variety Windsor Castle. The soil of the field was red with the presence of iron, consequently there was little doubt that the tannic acid, being liberated by boiling, united with some salt of iron, producing tannate of iron, the usual ingredients of ink. Mr. Michael observed that it was of common occurrence in the peaty soils of Skye, and even preferred by the local inhabitants." Evidently it must be a misprint in the statement that "the latter were much blackened but not the former," inasmuch as the garden soil was not described.

My chief object, however, in thus drawing attention to the subject is with regard to the presumed action in the boiling process in liberating the tannic acid, which, uniting with some salt of iron, produced tannate of iron, and the question appears to me that the boiling process is not alone responsible for the discolouration, as the steaming process or roasting in an oven produces the same phenomenon, hence intimating that the natural moisture contained in the tuber during the cooking is the acting agent, and not the boiling.—W. G.

ROCK GARDENS AND ROCK PLANTS.

OF all the many forms of growing and cultivating flowers, we think that those coming under the above heading contain some of the most fascinating. You may find here "pleasures, which nowhere else were to be found, and all Elysium in a plot of ground." The novelty, the delightful variety, and charm which the rock garden lends to the cultivation of flowers can scarcely be estimated, for within its bounds you can grow a host of dainty little gems, which would be lost or refuse to grow in the ordinary garden border.

Over the rocks are trailing the fragrant sprays of the Twinflower, exhaling such a flavour of the woods as to win the love of the great Linnaeus, and therefore named in his honour *Linnaea borealis*; while there at the foot of another rock the soil is carpeted with a thick mat of dark leaves, covered with cool-looking, lilac-scented, star-like, white tubular flowers, *Mitchella repens*. Through this carpet may upstart some graceful wild Wood Lily or lovely *Narcissus*, looking self-possessed, bending, and nodding to every passing breath of wind. In another corner up peeps the small *Soldanella*, or may be that alpine gem *Gentiana verna*, whose funnel-shaped flowers flash out their deep blue light beside the emerald green fronds of some choice hardy Fern. Yes, the rock garden is unquestionably the most characteristic and interesting home for real alpine gems, of which we have a constant round of variety, developing and thriving among the stones or rocks, where the roots have found a cool resting place.

In speaking of a rock garden let us draw attention to the fact that in no sense must it be identified with those base embellishments styled "rockeries," with which we are constantly being brought in contact—nightmares of boulders, old stumps or brick-yard clinkers, specially selected because they may contain some hole or cavity into which even the smallest possible quantity of soil can be pushed, and into which scanty pasture, where even a Stinging Nettle would call out for mercy, one of the daintiest of alpine plants is turned out and expected to thrive, but only pines away and dies. Some tough or weedy kind like a *Sedum* or *Sempervivum* may survive the broiling ordeal, but even these do not thrive, they simply exist.

In forming a rock garden it must be borne in mind that most alpine plants love to run deeply into the soil in search of moisture; therefore must we attempt to imitate the conditions under which they exist in their own wild homes by selecting a site fitted for the object in view. Two things are required to begin with, and these are soil and stones, and of the two the first is the more important; many fall from thinking of stones first and soil afterwards. The soil should be ordinary sandy loam, with the addition of a small portion of leaf mould and a large proportion of sand and gritty matter. Such a compost meets the wants of a large majority of alpine plants, but a few peat-loving plants must be specially provided for. The stones or rocks used should be porous, for few alpine plants can subsist on impenetrable rock; they like to cling to it, and to push their tiny roots into the fissures to suck therefrom moisture to support themselves. In the formation of the rock garden it must always be borne in mind that alpine plants thrive much better on the level ground in ordinary sandy loam than exposed to every breath of drying air and the rays of

a scorching sun. The soil should be first formed into whatever shape the rock garden is to take, and then the stones must be firmly embedded therein, leaving sufficient space between them for the root development of the plants. Some of larger stones may be placed widely apart, with smaller angular stones embedded in the soil betwixt them, in order to keep the soil moist and open; others may be placed closely together, some deeply embedded only showing their surface; whilst others rise above the surface at various heights, by which means every variety of position is secured for the plants. Some want partial shade; while others prefer to hug the stones with their roots, and succeed best in the narrow fissures.

Where to place the rock garden will depend much on the surrounding ground. Nothing can be more beautiful than if placed at the bottom of an incline, perhaps in an old pit, imitating a natural grotto half-smothered in plants and Ferns; or near trees that would afford abundant shade and moisture for the shadow-loving plants, and also shelter from rude winds. If one can introduce water into the scene by all means do so.

Let us now endeavour to peep at some of the garden's occupants as they hurry before us into life, commencing with the spring of the year. The first few warm days reveal wonders. You have the charming *Scillas* with their bell-shaped flowers, while between the chinks of the rocks rise the no less beautiful *Hepaticas*, glowing in all the shades of blue, purple, and rose, shading off to lavender, soft flesh tints, and pure white. We cannot pass that sweet harbinger of spring, our native *Primrose*, and its near allied forms of *Primula*, an endless variety of shades from the yellow Cowslip, the crimson *Primroses* and *Polyanthuses*, the edged and powdered *Dusty Millers*, the deep rose umbels of *P. cortusoides*, the fiery *P. rosea*, the bright mauve *P. denticulata*, the pale yellow fragrant *P. sikkimensis*, the high coloured hybrids, the Bird's-eye *Primrose*, and others too numerous to mention, not forgetting that gem of the Rocky Mountains, *P. Parryi*, with its tall stalks of fine rose-coloured blossoms.

We must also stop to admire *Saxifraga oppositifolia* and its varieties, which is a native of some of our own mountain ranges, and is one of the jewels of the rock garden. Space will not allow us to dilate on the rosy cordifolia, the gigantic peltata, the longifolia, and a host of others. We cannot enumerate all the items in the feast, but in conclusion we wish to draw attention to a few practical hints. Do not utilise plants that sucker or throw out strong creeping rootstalks; do not plant in lines—plants are not regiments of soldiers; do not plant on the dot and carry one principle—variety is the spice of the garden, therefore mass boldly, not confining yourself to a few kinds of plants where there is so much to choose from; do not imitate others, produce your own ideal of a garden; and do not plant coarse weedy subjects, but think twice before you decide to introduce another variety, but plant for permanency, adding something every year.

Few realise the richness of a rock garden; few are familiar with its infinite grace and beauty; and fewer still appreciate many of our wild flowers thriving under proper cultivation, and how much they add to the charm of the garden.—T. GER.

DOUBLE TUBEROSES.

THESE half-hardy bulbous plants are useful in the early part of the year, if means for forcing growth are available; they may be grown in frames and even outdoors, but they will be consequently later in flowering. Africa supplies the first consignment of bulbs, and these are ready for potting in September and October. The American varieties and the dwarf habited *Pearl* come to hand in December or January. All may be potted in a compost of fibrous loam, leaf mould, decayed manure and silver sand.

The largest bulbs should be placed singly in 5-inch pots, and the smaller three in a 6-inch pot. Drain the pots efficiently and place the bulbs about two-thirds of their depth, potting firmly. After potting, place at once in bottom heat ranging between 60° and 70°, the pots being plunged in moist cocoanut fibre refuse. Give a gentle watering, but afford no more until growth begins. When fairly well established remove the pots from the plunging material and place on a shelf near the glass in a temperature of 60°, where they may remain until flowering commences, of course not allowing the growth to touch the glass, especially when the external temperature is low. A greenhouse temperature is sufficient for the plants when in bloom as the flowers will last longer in a cool greenhouse.

Bulbs potted in February and not wanted to bloom quickly may be placed in a frame, using moist soil in potting and not watering. Cover with cocoanut fibre refuse in a moist condition several inches above the pots. When growth begins expose the plants gradually to light and give an application of water. When growth commences to extend freely the plants can be removed to the greenhouse watered as often as the surface soil dries, and they will soon flower. By potting at intervals, giving the treatment suggested, a succession of flowers may be obtained. The blooms are always invaluable for bouquets and buttonholes.—E.



PROPAGATING ORCHIDS.

MANY Orchids are easy, many others more difficult of propagation, and only in a few cases is it worth while propagating common kinds that are freely imported. It is where rare and uncommon forms are concerned that propagation comes useful, and experienced cultivators do not hesitate to practise division of various kinds on the most unique and valuable plants. Perhaps of all Orchids *Cypripediums* have been the most freely propagated, and these in most cases divide easily; a few roots may be secured with almost every growth, and only time and careful treatment are necessary.

More risky is the cutting about of pseudo-bulbous species, such as *Cattleyas* and *Laelias*, *Odontoglossums* and others. In the case of the former plants especially there is great risk of so weakening the parent plant that it is little use after. It is best not to cut the rhizome quite through at once, as if rather deeply notched some time previous to its removal the check is not so severely felt. Not less than two mature pseudo-bulbs, as well as the young lead must be taken, and in the case of strong growing plants three, or even four, are better. On the other hand, if cut too far back the parent plant is less likely to break into healthy growth, the basal buds being older and more congested; the growth, too, when it does appear being proportionately weaker.

During growing Orchids of the single stemmed section, such as *Angraecum* and *Phalaenopsis*, are often difficult of propagation, as only when side breaks occur naturally and can be taken off can the plant be increased. With the longer slender growers of the *Vanda* and *Aerides* tribe, on the other hand, side breaks are frequently produced, or may be forced by cutting off the tops of the plant. In this case the breaks need only be potted singly, kept rather close and warm for a few days, and they will soon make healthy little specimens.

There are many natural methods of propagation. For instance, many of the *Dendrobies* of the noble and similar sections produce young plants at the ends of the stems. These form an excellent means, as do the small bits often seen on *Thunia* stems. The latter may be propagated very rapidly by cutting the stems into lengths of about 4 inches and inserting these just under the surface in pots of moss. These are only a few of the simpler forms of propagating, and it may be worth while to say that both parent plant and the divided portion should come in for a little careful convalescent treatment.

LÆLIA ANCEPS ALBA.

Quite a number of inferior forms of this chaste and lovely Orchid are in cultivation, owing to those who flower a form with white sepals and petals at once jumping to the conclusion that it is *L. a. alba*. Most of them have the usual rose or purple markings about the lip, while the true variety has none of these, simply a yellow throat. The white forms are usually supposed to be more difficult to flower than the coloured, but they are not really so if kept well up to the light, as every variety of *L. anceps* should be. A thin compost and perfect drainage are also necessary, and a temperature a little above that of the cool house.

ONCIDIUM TETRAPETALUM.

This is a truly beautiful little *Oncidium*, worthy of a place in all collections, but much too small presumably for present day cultivators, who like something large and showy. Although for a few years after importing the plant grows and flowers fairly well, it is difficult to get it to hold on for any great length of time. The likeliest plan to succeed with it is to place it on blocks of Tree Fern stems and hang these in a light but not too sunny position in the intermediate house, the plant being a native of Jamaica.

ARUNDINA BAMBUSÆFOLIA.

Although an old and extremely pretty Orchid this is not seen in many collections, and this is the more remarkable when one considers how easily grown it is. The culture, in brief, is very like that of the *Labralias*, but the foliage is far prettier and more graceful, Bamboo-like, as the specific name implies. The roots should be planted in fairly large pots in a compost consisting of equal parts of peat, loam fibre, and chopped moss. It does well in a hot, moist house, and during the growing season may be freely syringed. *A. bambusæfolia* is a native of Bengal and Assam, and was introduced by Loddiges in 1840.—H. R. R.

CYPRIPEDIUM LEEANUM.

Perhaps in no family of plants have the hybridiser's ideals been better realised than in the above section of *Cypripediums*. Where choice flowers are required in large quantities this *Cypripedium* can be

recommended, even where an Orchid house is non-existent, as it can be grown under the same conditions as *C. insignis*, though it delights in a little more heat than many growers give that species. The best temperature is a warm intermediate one, and the compost recommended for the green leaved section answers its requirements. This hybrid was first raised by Messrs. J. Veitch & Sons; it was eventually named *superbum*, Sir Trevor Lawrence's seedling being taken as the type. Since then it has been raised by numerous orchidists, and the varieties are almost endless, the best perhaps being *C. Leeanum giganteum* and *magnificum*.

ONCIDIUM FORBESII.

THIS handsome species, which is now unfolding its beauties, should be grown in the cool house in the smallest pans possible the whole year through. The compost it delights in is equal parts peat and moss, and it well repays being suspended quite close to the glass in a moist and cool corner; it will not stand sun. Insect pests must be diligently searched for, as red spider is very partial to its leaves, which they greatly disfigure. There are many varieties, varying from deep brown fringed with yellow down to clear yellow; the latter appears to be very scarce. The large panicles make the cool house delightful at this dull season of the year.

[A very beautiful variety was exhibited at the Drill Hall on December 5th by Mons. L. Linden, Brussels. It was named

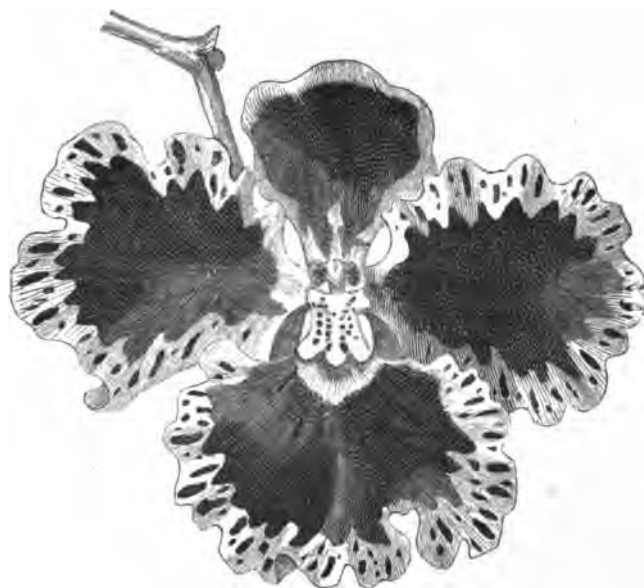


FIG. 94.—ONCIDIUM FORBESII MOORTEKEEKENSIS.

O. F. moortekeekensis, and is shown in fig. 94. The colour is shining brown, with a splendid fringe of bright yellow. The Orchid Committee recommended an award of merit.]

NOTES ON LÆLIA AUTUMNALIS.

"This family of winter flowering Orchids is often considered a difficult one to keep in good condition for a number of years. This, I think, is often attributable to the plants have been grown in too much heat, and with insufficient fresh air. I have seen plants grown up from mere scraps into respectable plants in an ordinary greenhouse, and this of that most chaste and beautiful variety *Lælia autumnalis alba*, which is considered more difficult than the typical one.

L. autumnalis was introduced from Mexico, its native country, in the year 1836, and has been imported in considerable quantities since, until at the present time it is a comparatively common Orchid. Like all Mexican Orchids, it delights in an abundant supply of fresh air the whole season through, and I find it thrives best in perforated pans suspended close to the glass, where it obtains the maximum amount of light and air. Whilst in active growth the temperature should never exceed 65°, and when at rest never allow it to fall below 50°. When growing the plants must receive abundance of moisture both at the roots and in the atmosphere, reducing the supply gradually until hardly any is given during the resting period.

The typical variety is the best known; the flowers are of a beautiful rose colour, and are produced at this festive season of the year, when Orchids are doubly valuable. The variety *alba* is not so well known, and one generally sought after on account of its purity of colour; there is only a faint tinge of yellow in its throat. *L. a. atropurpurea* is a great improvement on the type, and was introduced by Messrs. Backhouse & Son of York in 1879, as was *venusta*, which is undoubtedly the best of them all. *L. a. atropurpurea* is much stronger in growth, and the spikes and flowers are larger and better coloured.

The flowers are often 4 inches across, and of a brilliant purplish crimson colour, the front lobe dark purplish crimson, while the side lobes that enclose the column are pure white, which makes a striking contrast. *L. a. venusta* is the preceding glorified, being deeper in colour, also larger. A plant in flower with me at the present moment is carrying six beautiful flowers. *L. a. grandiflora* is perhaps the largest of the whole family, and may be best described as a gigantic flower, being nearly 6 inches across, and of the same colour as the type.—J. BARKER, *Hessle*.

ORCHIDS AND ORCHID HUNTING.

THE last meeting of the autumn session of the Birmingham Gardeners' Association, the President (Professor W. Hillhouse of Mason's College) entertained the members with a highly interesting and instructive lecture from notes, entitled "Orchids and Orchid Hunting." The Professor—in his usual fluent and comprehensive style—traced the history of the Orchids, at least from the time of Linnæus, and to whom only about seventy species and varieties were known, whereas about 5000 species and about 400 varieties have been discovered since that period. The lecture was illustrated with a series of lantern slide photographs, chiefly to show the anatomy and characteristic organisation of the numerous genera and their variants.

The geographical distribution of the various species was minutely described, and illustrated by means of coloured maps thrown upon the screen. Adverting to local cultivators of Orchids, the chief collections were said to be at the present time Mr. Joseph Chamberlain's, Mr. J. H. Kenrick's, Edgbaston, and at the Botanical Gardens, Edgbaston, and where Mr. Latham is continually adding to his stock.

In the short discussion which followed one of the members, in reference to the occasional misnaming of Orchids, observed that the new hybrid Orchid *Sophro-Cattleya Chamberlaini* triumphans (exhibited by Mr. J. Smith, grower to Mr. Chamberlain at Highbury), and honoured with an "award of merit," had been—at least in two of the London dailies and the "Birmingham Daily Mail"—erroneously spelt as follows:—*Socyphro-Cattleya*, and that *Chamberlainiana* was given as a generic name, and he thought that such errors should be corrected forthwith, and thus save confusion in plant names.

A vote of thanks, proposed by the Chairman (Mr. W. B. Latham), and seconded by Mr. W. Spinks, was unanimously accorded to the lecturer, who remarked in response that he regretted, owing to so numerous demands on his time, his inability to attend the meetings oftener.

IRIS SUSIANA.

FOR many years there has been a hesitancy among gardeners to cultivate this glorious Iris. One of my friends who believed it was impossible to "do" it out of doors has gone the extreme length of subjecting it to treatment as a greenhouse pot plant. During the last three years it has flowered regularly, the stock having been planted perhaps five years, and required at least a couple of years to gain strength to flower. From my experience with the plant I conclude your correspondent's treatment is not likely to be a success.

It commences growth in October, and we have only to refer to old writers to discover that this month has always been the one when growth commenced. Gilbert ("Florists' Vade-Mecum") tells how some seventeenth century growers lifted the plants annually in order to better insure bloom, but they were again planted in August and September, the positions chosen being at the base either of a west or a south wall. I should not hesitate to defer planting stock of a flowering size much later, but it must be remembered that growth springing from the sides of the older ones requires a few years to attain to a flowering size, and late planting must consequently be detrimental; while spring planting is, I should say, treatment that ought to be avoided as being altogether inimical.

Our plants are growing in a strong soil imported to form a good rooting medium for Roses. When planted, some light compost was added to assist the plants in establishing themselves more quickly. They are also annually surface-dressed with cow manure, supplemented by a little artificial in early spring, and as they are planted quite close to the base of a south wall so warm that *Lonicera fragrantissima* trained to the bricks above them is flowering when I write, it is apparent they do not object to a hot position.

The plants vary considerably in growth. At present one has foliage 15 inches in length, another a foot, and a third from 3 to 6 inches. They are covered with a thick mass of dried fern fronds, which will be removed directly the frost gives, leaving, however, a few pieces among the foliage.

With regard to the value of stones when placed under the roots, have they ever been proved of general use? I know a case where the most elaborate arrangements with flagstones and frames resulted in failure. To employ them when the plants succeed perfectly under conditions requiring neither stones, frames, or anything beyond a strong fertile soil and a warm exposure, is surely a superfluous proceeding.—R. P. B.

MICRO-ORGANISMS AND THEIR WORK IN THE GARDEN.

WE live, says Dr. G. Norman, in a world teeming with life, both animal and vegetable. The first question we are led to ask, therefore, is to which of these orders do bacteria or micro-organisms belong? Now the differences between animals and vegetables, even so low down in the scale of life as micro-organisms, are chiefly two—first there is a difference in structure and development, and secondly there is a difference in diet.

A plant secures its nourishment from much simpler elements than is the case with animals. For example, plants obtain their carbon from the carbonic acid gas in air and water. This they are able to do as regards the carbon by means of the green colouring matter, known to chemists as chlorophyll, by the aid of which with the assistance of sunlight carbonic acid is decomposed in the chlorophyll cells, the oxygen passes back into the atmosphere, while the carbon is stored in the plant in the form of starch and other organic compounds. The supply of carbon in the non-chlorophyllous plants, amongst which we may include micro-organisms, is obtained from the different forms of carbohydrates, better known as starch, sugar, and gum.

Many of the bacteria also have the capacity of using organic matter in the soil, converting such into water, carbonic acid, nitrogen gas, and ammonia. The necessary hydrogen comes from water, and their nitrogen from the soil, chiefly in the form of nitrates. From the soil, too, bacteria obtain other necessary salts, of which lime is perhaps the chief. Now all these substances are in an elementary condition, and as such plants can absorb them. Animals, on the other hand, are only able to utilise compound food products which have been, so to speak, prepared for them. For example, we may mention the albuminoids and proteids. They cannot directly feed upon the elementary substances forming the diet of plants. Further, micro-organisms, by their structure and tissues of cellulose, and by their life history and mode of growth, unmistakably proclaim themselves to be of the vegetable kingdom.

The presence of bacterial micro-organisms in the soil is considerably affected by its geological and physical conditions. Surface soils and those rich in organic matter (humus) contain the largest number of micro-organisms. Virgin soils contain much fewer than cultivated soils, and these latter again, fewer than composted soils. In rich garden ground the number of organisms augments with the activity of cultivation and the richness of the fertilisers employed.

In all soils the maximum number of organisms occur in the summer months, and these are most active during warm weather. Consequently they are both more numerous and more active in well prepared soils in a greenhouse or conservatory, or even in a closed frame, than they are in the open garden. At the same time the conditions, doubtless, which more than all others control the quantity and activity of the contained micro-organisms, are the degree and quality of the organic matter or humus in the soil.

The quantity and quality of organic matter present in garden soils have a direct effect upon bacteria, and these conditions are considerably enhanced by the applications of farmyard and stable manure. To enable us to appreciate the work which the "economic bacteria" perform in the garden, it will be advisable to consider shortly the place they occupy in the economy of Nature.

The threefold functions of plant life are maturation, assimilation, and reproduction; in other words, the food of plants, the digestive and storage power of plants, and the various means they adopt for multiplying and increasing their species.

Respecting the nutrition of plant life, it is obvious that, like animals, they must feed and breathe to maintain life. Plant food is of three kinds—namely, water, chemical substances, and gas. Water is an actual necessity to the plant, not only as a direct food and food solvent, but as a vehicle of important inorganic materials. The hydrogen of the organic matter is obtained from the decomposition of the water which permeates every part of the plant, and is derived by it from the soil, the rainfall, and other aqueous deposits of the atmosphere. The chief chemical substances of which vegetable life is constituted are six in number—viz., potash, magnesia, lime, iron, phosphoric acid, and sulphur. These inorganic elements do not enter the plant as such, but combined with other substances, or dissolved in water.

The gases essential to plants are four—viz., carbonic acid, hydrogen, oxygen, and nitrogen. The leaves absorb the carbonic acid from the atmosphere, under the influence of sunlight; the hydrogen is obtained from the water; oxygen is absorbed through the roots from the interstices of the soil. The fourth gas, nitrogen, which constitutes more than two-thirds of the air we breathe, is doubtless the most important food required by plants, and it is the most expensive to buy.

Yet, although this is so, the plant cannot absorb or obtain its nitrogen in the same manner in which it acquires its carbon—namely, from the atmosphere through the leaves; nor can the plant take

nitrogen into its own substance by any means as nitrogen, with the exception of the flesh-feeding plants (insectivorous). Hence, although this gas is present in the atmosphere surrounding the plants, yet the plants will perish if nitrogen does not exist in some combined form in the soil.

Nitrates and compounds of ammonia are widely distributed in nature, and it is from these bodies that plants obtain by means of their roots the necessary nitrogen. Until comparatively recently it was held that plant life could not be maintained in a soil devoid of nitrogen or compounds thereof. But it has been found that certain classes of plants—Beans, Peas, Clovers, and Lupins—when they are grown in a soil which is practically free from nitrogen at the commencement, do take up this gas into their tissues. One explanation of this fact is, that free nitrogen becomes converted into nitrogen compounds in the soil through the agency of micro-organisms present there. Another explanation attributes this fixation of nitrogen to micro-organisms existing in the rootlets of the plants. These two classes of organisms are known as the nitrogen-fixing bacteria, and have very important functions to perform, even in the garden which is devoted to the growth of a miscellaneous collection of plants.

Plant life seizes upon its required constituents as they become available in the soil partly through the agency of micro-organisms, and by means of the energy furnished by the sun's rays build these materials up into its own complex forms; and its many and varied forms fulfil a place in beautifying the world.—J. J. WILLIS, *Harpden*.

BI-CENTENARY OF THE SWEET PEA.

It has been thought highly desirable by a number of admirers of the Sweet Pea that, having regard to the facts—first, that the varieties of this charming subject are multiplying with singular rapidity; second, that it is now so generally employed for garden and floral decorations; third, that it has become a very prominent subject at horticultural exhibitions; and, fourth, that its culture for cut flower and seed purposes has become a great commercial industry—it is expedient that, as the year 1900 will be the bi-centenary of its introduction into Great Britain, some attempt should be made to celebrate this important event.

With a view to such celebration a preliminary meeting took place at Edinburgh on September 13th last, Mr. George Gordon, V.M.H., presiding, when the following propositions were agreed to: That it is advisable to organise an exhibition of Sweet Peas in London in July, 1900, in order to celebrate the bi-centenary of its introduction into Great Britain. That a conference of admirers and growers of Sweet Peas be convened for the purpose of classifying the varieties into groups of colour and form, for the selection of the finest in each, and for such other purposes as may be deemed advisable for increasing the interest in the improvement and culture of this popular flower both at home and abroad.

That as visitors to the Exhibition and Conference are expected from the United States and several continental countries, it is desirable that suitable social functions be arranged in conjunction with such occasion. The preliminary committee appointed at this meeting have drawn up the following scheme, for which they request your cordial support:—

- 1, An exhibition of Sweet Peas in London during July, 1900, at which prizes shall be offered for collections and bunches of Sweet Peas, and for illustrations of how the flower can be utilised for decorative purposes.
- 2, Trade exhibits of Sweet Peas, not competing in any of the classes in the schedule, but to which honorary awards will be made, will be invited.
- 3, Special prizes invited, but those only can be accepted that are free from trade conditions.
- 4, A conference will be arranged at which certain experts will read papers dealing with the classification, history, evolution and properties, &c., of the Sweet Pea.
- 5, A banquet and other social observances as may be deemed advisable.
- 6, That some person of distinction be invited to become president of the International celebration.
- 7, That a number of gentlemen, prominent in matters horticultural, be invited to become vice-presidents.
- 8, That a fund be opened to provide a prize list and defray expenses of the celebration, towards which the following amounts have been promised:—

Mr. Henry Eckford, Wem	£3 3 0
Messrs. Dobbie & Co., Rothsay	3 3 0
Mr. George Gordon, V.M.H.	1 1 0
Mr. H. J. Jones, Ryecroft, Lewisham	3 3 0
Mr. Robert Sydenham, Birmingham	3 3 0
Mr. Owen Thomas, V.M.H., Frogmore, Windsor	1 1 0
Miss Willmott, V.M.H., Warley, Essex	1 1 0
Mr. N. Barnes, Eaton, Chester	1 1 0
Mr. Hugh A. Pettigrew, St. Fagan's	0 10 6
Mr. Richard Dean, V.M.H., Ealing	1 1 0

It is estimated that the sum of £300 will be required to carry out the celebration in a manner that will insure its unqualified success. Tickets of admission to the Exhibition and Conference will be allotted *pro rata* to subscribers to the fund. Any surplus remaining after the payment of necessary expenses will be given to the gardening charities.

9, That the following form an executive committee to carry out the celebration, with power to add to their number:—

Chairman, Mr. George Gordon, V.M.H.
 Mr. N. F. Barnes, The Gardens, Eaton Hall, Chester.
 Mr. E. Beckett, The Gardens, Aldenham House, Elstree, Herts.
 Mr. P. Blair, The Gardens, Trentham, Staffs.
 Mr. Charles H. Curtis, 68, Whitehall Road, Brentford.
 Mr. W. Outhbertson (Messrs. Dobbie & Co.), Rothsay.
 Mr. John Eckford, Wem, Salop.
 Mr. F. G. Foster, Brockhampton Nurseries, Havant.
 Mr. John Fraser, F.L.S., 5, Clement's Inn, Strand, W.C.
 Mr. J. McHattie, The Gardens, Strathfieldsaye, Mortimer, Hants.
 Mr. E. Molyneux, The Gardens, Swanmore Park, Bishop's Waltham.
 Mr. Thomas Lunt, The Gardens, Keir House, Dunblane.
 Mr. H. J. Jones, Ryecroft Nursery, Lewisham.
 Mr. Hugh Pettigrew, St. Fagan's Castle, Glamorganshire.
 Mr. R. Sydenham, Tenby Street, Birmingham.
 Miss Willmott, Warley Place, Great Warley, Essex.
 Mr. Horace Wright, 32, Dault Road, Wandsworth.
 Mr. J. Whytock, The Gardens, Dalkeith, Edinburgh.
Hon. Secretary and Treasurer, Mr. Richard Dean, V.M.H.

Requesting the favour of your warm interest and support to the celebration.—RICHARD DEAN, V.M.H., *Hon. Secretary*, 42, Ranelagh Road, Ealing.

I AM interested to find that it is intended to celebrate the 200th anniversary of the introduction of the Sweet Pea into Great Britain. I presume the promoters of this celebration are safe in their chronology, and have fixed the right year exactly; but, of course, in a matter of 200 years one more or less is of little consequence. It will be interesting if illustrations of the original Pea can be shown in connection with the celebration. Certainly we did not do very much to improve it during the seventeenth and first half of the eighteenth century. More has really been done during the past twenty years or so than had been done in the preceding 180 years in developing this now most beautiful flower.

The celebration of centenaries or of bi-centenaries is all very well. They give occasion to let off some of the florists' or other horticulturists' pent-up steam, but evidently they have only a very fugitive effect on the object celebrated. Prosperity and progress in relation to anything horticultural depends far more on the intrinsic merits of the object, and its fitness for use in some form, than to any form of transitory booming. The celebration of the Dahlia some years since did very little to popularise that flower. The introduction of the Cactus Dahlia, with which the celebration had nothing to do, has done wonders. The hero of the Sweet Pea to-day is Mr. Eckford, the patriarch of Wem, and not ten thousand celebrations and centenaries could accomplish one tithe for the Sweet Pea that he has done. Let us glorify this beautiful flower by all means for it merits all extolling; but let it be in the great present, and not in the dim and almost forgotten past. It is the present which has made the Sweet Pea what it now is.—A. D.

OUTDOOR VINES.

I do not approve of Vines generally being treated as creepers in place of Ampelopsis Veitchi, because Clement Hoare long ago demonstrated that if you want a Vine to succeed on a wall you will limit it, for sixteen years at any rate, to a space measuring 5 feet wide and 10 feet high, making special arrangements for walls from 10 to 20 feet or more in height.

But some Vines will accommodate themselves to the more common usage, and I can name the American Brandt as absolutely requiring to be "let go." Its bunch is small, and so are its black berries; but anything like training or severe pruning disagrees with it, as far as my observation goes. One of my pupils ripened his with finer bunches than mine on a N.E. aspect in the third year.

Your correspondent "W. B., Lincoln," should know that not only unripe Grapes, but the superfluous green growth of Vines with sugar added, will make wine equal to that of ripe fruit.

I have the Chasselas Vibert, among many others, now in my garden, in their first year. Those that I have long had as first ripeners, both on the wall and in open rows, are Miller's Burgundy, Royal Muscadine, Esperione, Sweetwater, and Brandt; also sometimes Black Hamburg and White Tokay. I expect soon to have many more, my expectations being greatest as regards Chasselas Vibert, Chasselas Rose, Jacques, Ironclad, and Moore's Early, though the list of hardy wall and vineyard Vines for England runs to at least twenty more.—H. M. TOD.



MADAME R. CADBURY.

THE magnificent representation of this Chrysanthemum, page 523, should be the means of making this late flowering variety much better known than it is at present. As I write I have a typical bloom before me, and can admire the extremely broad floret so purely white which opens with just a tinge of cream at the base. The florets are perhaps a trifle short, rather blunt at the end, many of them having a single notch at the tip. Full sized blooms measure 7 inches wide and nearly as much deep, which is a good proportion for a show bloom.

TWO PLANTS IN A POT—DISQUALIFICATION.

At the shows I notice a growing tendency amongst exhibitors, especially amateurs, to grow several plants in one pot, and assume them to pass as a specimen. I do not think such a practice is intended to deceive the judges or the public, but such plants are not legitimate single specimens, as some amateurs may consider them to be. It would be well if committees of societies when drawing up their prize list for the coming year were to indicate clearly what they expect.

The regulations governing such classes are not infrequently loosely worded, although the intention may be plain enough. Judges must follow the instructions laid down in the prize list, even if the wording appears to be wrong. In several instances this season I have been compelled to disqualify exhibits where more than one plant in a pot was found.

Prizes are offered for "single specimen plant." Some exhibitors, with the object of producing an extremely fine "specimen," had inserted four cuttings in the one pot, and grown the plants afterwards without dividing them. Such "specimens" cannot be passed in justice to others who really do grow and show one plant only in each pot.

If the precaution were taken in drawing up the schedule to insert the clause, "a clear stem of 2 inches must be visible above the soil," there could be no opportunity then for an error.—E. MOLYNEUX.

NOTES AND REMINDERS.

HALF a dozen splendid blooms of *Mlle. Lucie Faure*, an incurved variety, were noted at Worplesdon Place the last week in November. They were of perfect build, 5 inches in diameter, and as many inches in depth. It is a pity this fine white is somewhat late, otherwise it would become highly esteemed for show purposes.

Mr. Thorne, the gardener at Worplesdon, has been fortunate with his Chrysanthemums generally this autumn, the flowers all round being of exceptional depth. Simplicity, Graphic, Mrs. J. Lewis, in fact all the leading kinds, gave evidence of good culture. The most striking thing in regard to the look of the plants was that the growth which produced them was comparatively thin, but hard and well-ripened. The hint might well be considered by those—not a few—who cultivate plants of great bulk, but who somehow fail to obtain the desirable huge blossoms.

Seedling Chrysanthemums are also favoured by Mr. Thorne, and one or two from seed saved by himself are distinctly promising. We would urge would-be raisers of new varieties to cross the best types only. This appears to be the surest means of obtaining improvements. Inferior kinds are the better seed-bearers, and thus the easiest way is not likely to be the most successful.

Another raiser of home produce in the way of novelties in Chrysanthemums is Mr. G. Carpenter, West Hall Gardens, Byfleet. As yet his best pair are named Mrs. C. F. Stoop and Miss Dolly Glide. They are both white, and are excellent. The former may almost be called a white Edith Tabor, so much does it resemble that gracefully formed variety. The latter is incurving, like Lady Byron, with florets of rare substance. This causes the blooms to last in perfection a considerable time.

The authorities made a great mistake when they bracketed Mr. T. Carrington and *Australie* as too-much-alike. It is a pity, because the former is prevented from being as popular as it ought to be. In shape and shades of colour it is unlike *Australie*, not so large, and much more refined. In habit, too, it is dwarf and sturdy, whilst the older sort is known as one of the tallest growing Chrysanthemums in cultivation.

The splendid new white Japanese variety, *Madame R. Cadbury*, has been exhibited two seasons, and both times at a December show. One must conclude, therefore, that it is essentially a late flowerer. This will detract from its merits as an exhibition variety perhaps, but not as a useful one. What most strikes one is its remarkable substance; the florets are quite thick and leather-like in texture. In general build it resembles *Emily Silsbury*, a solid reflexing shape.

A really good late flowering variety is *Tuxedo*. It is rather tall in growth yet makes a good bush plant, and the bronzy-red blooms are borne abundantly. The stem is capital, and long, thus being adapted for vases and such-like decorations.

King of Plumes is noted as first-rate for late use for cutting. The yellow is rich, and the blooms are made up with very finely cut florets, which give an elegant, feathery appearance. The plant is dwarf and naturally bushy. A good companion to the above is *Mrs. Carter*, named by some 'Thistle. This is a tinted white, very late, and most useful for cutting purposes.

The new "sport" from *Mutual Friend* named *Madame Von André*, will be much favoured by Chrysanthemum lovers, the type being so fine. Sulphur yellow describes the tint of the new one, which like many another has been obtained in more than one place at a similar time. But the above name was that which marked the first exhibited blooms, so that the yellow *Mutual Friend* will be known by the foreign name.

Many of the recent "sports" cannot, like the above, have much written in their praise, and their value, to our thinking, is mostly of a doubtful quantity. *M. Louis Remy*, a yellow form of *Madame Louis Remy*, itself a sport from Mrs. C. Harman Payne, is certainly good, and seems to lose that coarseness so characteristic of the last-named. *Archie Ray*, a sulphur-coloured form of *Mlle. A. de Galbert*; *Lord Aldenham*, yellow; *E. Molyneux*; *Mary Leschallas*, white; *Reine d'Angleterre*; *Mr. T. J. Simpson*, rosy form of *Julia Scaramanga*; *J. E. Clayton*, yellow; *Eva Knowles*; *Mr. A. Barratt*, rosy yellow from Mrs. C. H. Payne; *W. Adams*, rosy bronze from *Mary Molyneux*; *Eastman Bell*, from *President Borel*; *H. Rivers Langton*, sulphur yellow from Mrs. W. H. Lees are a few that can in no way be termed improvements. *Yellow Queen* of the *Earlies* and *Crimson Madame Marie Masse* are two excellent sports from a couple of first-rate early-flowering varieties. *Mrs. Thomas Wood* is a yellow sport from one of the most unsatisfactory incurved varieties we know, *Mrs. N. Molyneux*.

Not the least charming of all white Chrysanthemums is *Mrs. C. Bown*. This is an Australian raised variety. The blooms have a slight green tint when opening. They are not over-large, but of capital shape, and altogether rich in appearance. The plant is dwarf, free, and rather late to flower. As a December variety for cutting purposes we recommend it with every confidence.

An attractive single Chrysanthemum is *Yellow Jane Improved*. The flowers are most elegant in shape and charmingly light, and the plant is especially dwarf.

It is difficult to get dark-coloured Chrysanthemums which will keep those tints late in the season. Such a one, however, is *Master H. Tucker*. This variety is far more striking from late buds than from the early ones mostly selected, and it is late. It is a variety that should be grown in quantity to supply a rich colour at Christmas.—SPECIALIST.

CHRISTMAS IN THE RIVIERA.

A REMINISCENCE.

I SHOULD probably not be called to task for exaggerating were I to say that it is the lot of few of the horticultural fraternity to spend Christmas under the bright sun of the French Riviera, for there are not many resident British horticulturists there, and those of us whose work lies nearer home do not as a rule venture so far afield for our Christmas holiday. This being the case, a reminiscence of a sojourn in that beautiful district at this season may not be without interest to some readers of the *Journal of Horticulture*.

A stranger, arriving south from Paris, would first of all probably remark upon the brilliancy and colour of the sky, due to the wonderfully clear atmosphere which prevails. To one returning from a short stay in the Riviera a thick mist appears to hang before our northern sun.

The winter months from Christmas onward are very similar to summer time in this country; if it were not that the nights are colder one might readily imagine it to be summer—that is, if one had not

previously passed that portion of the year in the Riviera. Severe frosts are exceptional, occurring only at long intervals, and snow is almost unknown to the French and Italian inhabitants there. The scenery of the western part of this lovely district is more rugged, and does not contain perhaps so great a variety of indigenous trees as is to be found around Nice and Mentone.

The characteristic tree of the former neighbourhood is the Aleppo Pine (*Pinus halepensis*), which covers acres and acres of hillsides, and the Stone Pine (*P. pinea*) is also met with, especially near to the sea shore. The Olive tree, the Orange, and the Cork Oak, though conspicuous, grow more luxuriantly farther east and fruit more freely. The Lemon tree, too, is rarely met with west of Mentone. The Eucalyptus is prominent in most Riviera gardens. Its whitish bark and silvery leaves render it a handsome object, though its strong growing and gross feeding roots make it anything but a favourite with southern horticulturists.

Amongst the many remarkable types of vegetation, indigenous and introduced, that are to be seen in flower in the "Sunny South" about Christmas time, nothing, I think, strikes one more forcibly than the Mimosa trees. *Acacia dealbata* and *A. longifolia* are the principal species. These attain to a large size in the open, and become one mass of yellow. Having seen these trees in flower, one need wonder no longer whence come the numerous flowering shoots of *Acacia* which are so prominent a feature in our florists' windows at the present time.

In order to convey a correct impression of a Riviera garden at this season of the year, the best plan would, perhaps, be to ask the reader to accompany the writer during a stroll around a typical one, of which memories still linger.

The first step we take inside the entrance gates brings to view a charming sight, a white lodge covered with the foliage and pretty blue flowers of *Plumbago capensis*. Bearing a little to the right, the road passes between an avenue of tall and graceful Palms, composed of *Phoenix canariensis* and *Washingtonia filifera*. Small beds of variously coloured Hyacinths are on one side of the drive, whilst Primulas, red, white, and blue, in round beds, alternate on the opposite side. A border of mixed Ranunculi a little further on is noticeable, and immediately in front of the mansion are two long borders filled with *Anemone fulgens*, the latter bearing thousands of the starlike flowers. The undulating lawn stretching away in front has on the far side of it a belt of vegetation quite tropical in aspect, consisting of Bamboos, various Palms, and Magnolias. *Phoenix dactylifera*, *P. canariensis*, *Cocos plumosa*, *C. australis*, and *Pritchardia filifera* are the most noteworthy of the Palms.

Magnolia grandiflora attains to a large size, though unfortunately its handsome and sweetly scented flowers are not now open; they are produced early in the autumn. Conspicuous on the lawn are several finely shaped single specimens of *Cocos australis*, *C. Bonnetii*, *Brahea Roezii*, and others.

The mansion itself is covered with that well-known climber, *Bougainvillea glabra*, and twining and creeping around the balconies we see the Lotus flower, *Cobaea scandens*, *Streptocodon Jamesoni*, *Solanum jasminoides* and many other beautiful flowering plants. The first mentioned (*Bougainvillea*) is very extensively used as a covering for Riviera villas.

Large beds of Pansies, and finer I have never seen, are one mass of bloom. *Cinerarias* just bursting into flower, gaily coloured Tulips peeping through the grey moss with which the bulb beds are covered, borders of Carnations and Salvias are ordinary sights in these gardens, and the mention of them will give some idea of the floral wealth of the latter at Christmas time.

Agaves thrive remarkably well, and it is rare for a garden to be without one of these plants in flower. Bushes of Gardenias and Camellias, the latter now in flower, are not uncommon, while there are Roses everywhere. These latter are apparently in their element, for they grow most luxuriantly, and are in full flower in December and again in March. The lawns are beautifully fresh and green, due to their having to be resown every autumn, for late in the spring they are dug over and left in a rough state throughout the hot summer.

As we continue on our journey, we pass by a tiny brook, near which are grouped Yuccas, Agaves and Aloes, some of them in flower. On the banks of the stream are planted mixed beds of Freesias, Ranunculi and Pansies. In dry and dark places, under trees, where rain will not grow satisfactorily, a green covering is furnished by a species of *Carex*. This has dark green leaves, grows several inches high, and thrives well on banks and under the shade of trees.

Before passing through the Bamboo grove, which is so dense that we cannot easily penetrate into either side from the pathway, there are a few choice flower beds worthy of notice, the one of *Imantophyllum* and Lilacs is perhaps the best of them. Others are composed of Genietes, Ghent Azaleas, with *Adiantum* for a groundwork. Emerging from the fine mass of Bamboos many feet in height, we are again in sight of our starting point—the *Plumbago* covered lodge, the *tour du jardin* having been accomplished, after what has been only really a glance at some of its more interesting features.—HORTUS.

SPIRÆAS FOR FORCING.

For the decoration of the greenhouse, to provide flowers for cutting and plants to furnish vases in rooms or windows, one of the most useful plants is *Spiræa japonica*. It is an admirable plant for forcing, and from January onwards it may be had in bloom with a sufficient number of plants, and the means for accelerating the growth, during the early months of the year. Plants are readily obtainable from clumps of roots with well ripened plump crowns. The best are imported, and they may be obtained in November and as late as February.

For early forcing the clumps should be potted in November, using 6 inch pots for the smaller, 7 and 8-inch pots for the larger sizes. The pots do not require much draining, as *Spiræas* when in active growth are extremely thirsty, and attention to supplying them with water is a great point in their cultivation. Very little soil, too, is needed when potting, the clumps occupying the space within the pots almost exclusively, and it really is not advisable to give them a large amount of fresh soil, well grown clumps with bold crowns apparently not needing it. The spaces, however, may be filled up with some good ordinary potting soil. Then give water, and stand in a cold frame until necessary to start them growing.

The earliest stock required to flower must have the pots plunged to the rim in moist cocoa-nut fibre refuse in a strong bottom heat, and moisture supplied immediately the crowns or the soil appear dry. The flower spikes begin to show about the same time as the foliage commences to unfold. If they do not appear then they certainly will not do so later. A clump showing four to six flowering stems will subsequently develop a fine head of bloom. The principal help required consists of heat, moisture, and light. A bottom heat of 65° and a top heat of 70° will bring on the growth well in January. After that period bottom heat is not quite so essential, but a liberally heated house is necessary in February and March. In the months following growth takes place more naturally, and strong heat is not so imperative.

When the flower stems are well advanced liquid manure may be afforded, not applying it, however, when the plants are dry. The liquid should be weak, but it may be frequently applied. A stimulant made by dissolving horse, sheep, or cow manure in water proves valuable, or guano at the rate of ½ oz. to the gallon may be employed. When in full flower and active growth the demands of the plants for water is excessive, and during hot sunny weather in spring it is found to be advantageous to allow the pots to stand in saucers of water.

It is seldom that insects trouble *Spiræas*; indeed, they are practically exempt from attack during the time they are most decorative. The foliage is useful for mixing with cut blooms, but it must be firm and rigid.

After blooming the plants should be gradually hardened, and be planted out in an open position in the garden if it is intended to cultivate them for future blooming. They will not, however, be of any use for blooming the following season, and unless they are well cultivated by dividing the clumps and planting in rich ground, receiving due supplies of water and liquid manure, this trouble will not be rewarded by their blooming the second year if lifted and potted. It is not usually considered necessary to adopt this plan, as the clumps are so cheap, and force so readily.

In addition to the ordinary variety of *S. japonica*, there is a dwarfier growing and more compact habited variety named *S. j. compacta multiflora*. It is equally as free in flowering, and the spikes of bloom are denser, which renders it a good companion to the older *japonica*, and especially useful for conservatory decoration. Another excellent *Spiræa* which blooms abundantly, producing white plumes of feathery flowers, is *S. astilboides floribunda*. *Spiræa palmata*, flowers rosy crimson, and *S. Thunbergi*, white, are also excellent for forcing, or if preferred they may be given greenhouse treatment for blooming later.

Some growers retain a portion of their plants in pots after they have ceased blooming, but the amount of water the plants need to keep them healthy is very great. Liquid manure is also given, and sprinklings of artificials watered in. The foliage must be kept fresh until the period of its dying off. When the plants start again into growth give a top-dressing of some fertiliser, and assist growth frequently with liquid manure; but the results are hardly commensurate with the trouble taken, the spikes of flowers being distinctly inferior to freshly imported clumps.—E. D. S.

A SEED TRADE DINNER.—The assistants in the Edinburgh seed trade held their annual dinner recently under the presidency of Mr. David Mitchell. The dinner was thoroughly Scottish in character, and included the indispensable haggis and red-herring. After doing ample justice to the repast the company were entertained for some hours with song and sentiment. The toast-list included the principal employers in the town. During the evening a collection was taken for the Soldiers' Widows and Orphan Fund. The gathering proved most successful.



RECENT WEATHER IN LONDON.—The frost and snow which was with us last week, and raised the hopes of many for a skating Christmas, passed away on Sunday. Between the hours of five or six of the afternoon of that day rain commenced to fall, and continued throughout the evening. Monday opened dull and dark, with a damp mist falling, while on Tuesday it was dull and foggy, but dry. At the time of going to press on Wednesday it was very mild.

WEATHER IN THE NORTH.—During the greater part of the week ending the 18th inst. the weather has been exceptionally severe. A heavy snowfall took place on the night of the 11th, and lay on the following morning to the depth of nearly 7 inches. The frost increased from 10° on the morning of the 11th to 22° on the 15th, when thaw set in in the afternoon, and cleared off the most of the snow. On Sunday 5° frost were registered, and 3° on Monday morning, the latter day being gloomy in the extreme.—B. D., *S. Perthshire*.

TRADE APPOINTMENTS.—We learn that Mr. James Deans (formerly with Messrs. P. Barr & Sons), for the last eight years manager of Messrs. John Pope & Son's seed and plant establishment, Market Hall, Birmingham, has recently been appointed manager to Messrs. Cutbush's business, Bishopsgate Street, London. Mr. Deans is succeeded by Mr. James Balden, lately with Messrs. Sumners Bros., Birmingham, and formerly for fifteen years with Messrs. Little & Ballantyne, Carlisle. The Birmingham Gardeners' Mutual Improvement Association lose an esteemed and useful member by the removal of Mr. Deans.

THE WINTER MOTHS.—I hardly know whether I shall be admitted to make a remark or two on this subject without giving offence; I hope so. Some years ago the point was discussed as to whether the male moth was able to fly with his companion the female over the grease-bands—a very important point, or I should not refer to it. I contended, from very close observation, that it could not, and others felt equally certain they did. I have again watched them this autumn, and am more convinced that they cannot, and drop like lead in every attempt, and I have no doubt I have taken a thousand pairs, and am still taking for experimenting on mild nights.—J. H.

VIOLETS FOR EXHIBITION.—In reference to the note on page 521, I may inform "A. J. L." that Violets in pots are well shown, especially at Windsor. At Torquay I have seen them grandly represented, and in many varieties too. I know of no society that encourages Violets in a set state by the offering of a prize. Nurserymen exhibit the single-flowered varieties, such as Princess of Wales and California. It cannot be said, though, that they have a very striking decorative effect. A prize for twelve bunches in three varieties, as suggested, might, if tastefully arranged in vases with their own foliage, add interest to some autumn exhibitions, where variety is much needed.—E. M. [We think prizes have been offered and competed for with bunches of Violets at one show, if not more, at which "E. M." has officiated. Perhaps his eyes were dazzled by scrutinising about a thousand blooms of Chrysanthemums.]

THE LATE MR. JAMES MARTIN AND THE GARDENERS' ORPHAN FUND.—For perpetuating the memory of the late Mr. James Martin of Reading, the indefatigable and successful raiser of so many popular flowers, a movement is started, which we strongly hope will be successful, whereby the above charity may be provided with means for the support of a child, to be known as "The James Martin Memorial Orphan." Messrs. Sutton & Sons have generously contributed £50. Mr. Martin was so widely known and highly respected, beyond the scene of his labours, that many scattered friends will be glad to contribute their mites towards so worthy an object. A committee is formed by the Reading Gardeners' Mutual Improvement Association for carrying out the project. Arthur W. Sutton, Esq., and Harry J. Veitch, Esq., are Honorary Treasurers. Mr. J. Woolford, East Thorpe, Reading, with Mr. H. C. Cox, Fernlea, Junction Road, Reading, Honorary Secretaries of the "James Martin Memorial Fund." They will be glad to receive subscriptions from all who may like to share in perpetuating the memory in such an excellent way, of the departed worker, who, as is truly said, "was ever ready with his advice and help to all interested in horticulture."

CANKER IN FRUIT TREES.—I am pleased to see this subject revived, and have read the remarks on the subject in the Journal with much interest. My Ribston Pippin tree, on which I experimented some twenty years ago, is as free from canker, from my method of prevention, as any tree in England, and it might, I consider, be grown to any extent by dressing the grafts of stocks with insecticides or fungicides.—J. HAM.

PRESENTATION TO MR. J. T. MCLEOD.—Mr. McLeod, of the Dover House Gardens, Roehampton, has for several years past been the secretary of the Putney Chrysanthemum Society. In consequence of the pressure upon his time he has found it necessary to retire, and to show their appreciation of his services the members presented him with a handsome testimonial at the Society's annual dinner. Much regret was expressed at Mr. McLeod's retirement.

MR. J. MCINDOE AND THE ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—I am delighted to learn, through the note published in last week's Journal from Mr. McIndoe, that he has no quarrel with the Royal Caledonian Horticultural Society. Others besides myself have been misled by his remarks on page 378, which were to the effect that this Society was not fit, under its present rules and conditions, to have anything to do with the Grape trophy. Peace and harmony is what we should all aim at, for without which there can be no success.—D. BUCHANAN.

GARDENING APPOINTMENTS.—Mr. Charles Russell, late head gardener to J. K. Bradbury, Esq., Clayton West, Huddersfield, has been appointed, and has taken up his duties as gardener and steward to R. H. Reade, Esq., Wilmont, Dunmurry, Belfast. Mr. D. Brongh, gardener to Sir A. Edmonstone, Dunbeath Castle, has been appointed in a similar capacity to Earl Fitzwilliam, Coolattin Park, Shillelagh, in succession to Mr. J. Whytock. Mr. Chas. Thomas, for the past four years plant foreman and decorator at Sandringham, has been appointed head gardener Panmure Gordon, Esq., Loudwater House, Rickmansworth, Herts. Mr. Patrick Hynes, gardener to Colonel Daly, Raford, Athenry, co. Galway, has been appointed gardener to Mrs. Smithwick, Kilcreene Lodge, Kilkenny.

CHESTER PAXTON SOCIETY.—The annual general meeting of this Society was held in the Grosvenor Museum on Saturday, December 9th, under the presidency of Mr. John Wynne. The Hon. Secretary, Mr. G. P. Miln, in submitting his annual statement, reported that the membership had increased from 183 to 230, and this, together with the subscribers to the prize fund, give a total of 420 names on the Society's books. The finances of the Society were also reported to be in a very satisfactory condition, the sum of £35 3s. being carried forward to next year's transactions. A hearty vote of thanks was accorded to the retiring President, Mr. Wynne, for his offices during the year, and Mr. Robert Wakefield, Newton Hall Gardens, was unanimously elected President in his stead. The re-election of Mr. G. P. Miln as Hon. Secretary and Treasurer was proposed by Mr. N. F. Barnes, Eaton, and carried unanimously. The balloting for members of the Committee for the ensuing year was then proceeded with, the result being as follows—Messrs. N. F. Barnes, John Wynne, John Taylor, Edwin Stubbs, J. D. Siddall, Thomas Weaver, William Pringle, A. Ellams, John Dutton, John Weaver, Stephen May, John Jackson, and S. Garner.

BRISTOL GARDENERS' ASSOCIATION.—The fortnightly meeting was held at St. John's Parish Rooms, Redlands, on Thursday last. A large attendance was presided over by Mr. G. Brooks. Mr. J. H. Davis, of Redlands, was responsible for the paper, which was on the cultivation of the Bouvardia, Geranium, Begonia, Primula and Cineraria. He urged the cultivation of flowering plants as one of the most important branches of the gardener's work, and claimed that some one or other of the plants forming the subject of his paper could be had in bloom all the year round. In a very careful manner he dealt with the culture of each, giving his opinion as to the time suitable for sowing seeds or rooting cuttings in soil in which they were likely to succeed, and hints as to potting, watering and ventilating. Concluding a paper which was much appreciated he said that this, as well as all branches of horticulture, could only be excelled in by earnest effort; and whilst gardening was a great teacher, the gardener should never say "I know," but by ever aiming at the highest point in his profession, achieve the success which patience and trust alone can secure. A good discussion followed. Prizes for four sticks of Celery were awarded—First Mr. Benfield, second Mr. Ross, and a certificate of merit to Mr. Thoday for a Primula sinensis.

— **BIRDS AND FRUIT BUDS.**—In reply to an inquiry by "R. M." page 475, as to a dressing to prevent buds being taken, I would recommend making limewash in which petroleum, half pint to 2 gallons, is well mixed by forcible agitation with a rather coarse nozzle syringe before applying. Lime alone soon washes off. A friend tells me he adds cow manure to help the wash to adhere. Soot also is useful, but washes off. There are not so many bullfinches visiting me this autumn. I have only trapped about twenty, but last season it would probably be fifty.—J. HAM, *Astwood Bank.*

It has often been recommended by your correspondents to tie black cotton round the Currant bushes to frighten off the sparrows. I have tried it, and if plentifully used it will do this. And it will do more, it will strangle the shoots round which it is tied, and they will either die or break off. I examined some Red Currant bushes which had a year or two previously had cotton twisted round the shoots to keep away the sparrows, and to my surprise I found many branches almost cut through and ready to snap off; nothing could save them, and the bushes afterwards had a very irregular appearance from this unforeseen method of pruning. Those who have used thread or cotton twisted round their bushes will find if they examine them carefully what I have stated to be correct. At present I know of no royal road to prevent birds eating out the fruit buds except destroying the birds, which there is no harm in doing, as those which winter with us are not insectivorous, and do little good in gardens.—F. BOYES, *Beverley.*

— **CHRISTMAS.**—A great landmark in the year's progress is Christmas. Festival as it may be to some, a delightful social time as it may be to others, a period of feasting and drinking to many, a time for all descriptions of amusement to others; it is yet to thousands a wearying time, simply because it interferes with the ordinary courses of their lives, their vacations and comfort, and these always rejoice when the season is past, and the world has settled down to its ordinary comfortable routine. We shall in thousands of homes this Christmas find weeping and mourning, and intense sadness. He will be a poor patriot who does not in his hour of complacency and enjoyment find some room for earnest feeling and practical sympathy with those whom the war has bereaved of loved ones. The gardener probably regards Christmas as to him at times a season of severe trial. He has often to find products that are not just then too plentiful, for Christmas falls with us in midwinter, when garden products are none too abundant. But he regards the season all the same somewhat thankfully, because it marks that turning day by which we gradually pass from out of the gloom and cold of winter into the sunshine and warmth of spring. Christmas is his *pens assuorum*, that bridge of the winter, over once he has safely passed he travels forward with better hope into the promised land of a generous time. Given this festive season, so-called, has for the gardener great responsibilities, which intense cold renders all the keener; still he knows, once passed, every day brings him nearer to the paradise of summer.—A. D.

— **ANCIENT SOCIETY OF YORK FLORISTS.**—On Thursday, Dec. 14th, the annual dinner of the members of the Ancient Society of York Florists was held. Mr. Alderman McKay, J.P., President, occupied the chair. The usual loyal and patriotic toasts were duly honoured. The Lord Mayor proposed the toast of the evening, "The Ancient Society of York Florists, the President, Vice-Presidents, Officers, and Committee of Management." In doing so he said he was glad to note the continued success of their ancient society. He said he would yield to no one in his desire to put it on a firm and substantial basis, and he hoped it would go on, and prosper as it deserved to do. Looking back to the past, he remembered when the Society was not so prosperous as it was at present. It had always been served faithfully and efficiently by its officers, and he thought, having regard to the circumstances as they existed at that moment, that it had a long life before it. It was the launching out of the Society which had placed it in its present position. They started the great Chrysanthemum Show with fear and trepidation, but it was that show which had brought glory to the mill, and advertised it in such a way as to bring a large number of recruits to their ranks. The Society was doing a good work, and he was sure the company would join him in wishing it continued success. The President responded, and said he was assured on every hand that the last show was the most successful they had ever had, and in every way superior to its nineteen predecessors. One of the most remarkable features was that the number of groups shown had increased on the previous year from five to fourteen. The President announced that the Lord Mayor and Sheriff had intimated that they would offer prizes during the coming year, and the Rev. Gordon Salmon had also announced his intention of giving several special prizes.

— **PROTECTING TREES FROM HARES AND RABBITS.**—Various dressings have been recommended from time to time with the object of preventing hares or rabbits from barking trees. The latest in this line, says a contemporary, comes from New South Wales, where excellent results are said to have been obtained by painting the stems of the trees with a mixture of blood and lime. The proportions in which these ingredients were mixed are not stated.

— **TECHNICAL EDUCATION.**—This has been tried and found wanting so far as this county (Gloucester) is concerned. Some months since, however, a few influential gentlemen took a kind of vote in the neighbouring villages as to the subjects the villagers would like taught in lectures given during the winter evenings. Five or six of the villages selected gardening, and Mr. W. Iggulden was engaged for the purpose. Two lectures were given on November 23rd and December 5th at Stratton. On the first date Mr. Iggulden dealt with fruit growing—viz., preparation of soil, choice of trees, pruning, planting, staking, budding, and grafting. In the second lecture he dealt with vegetable culture, pointing out the importance of deep cultivation and its advantages; also surface stirring, pointing out the why and wherefore of frequent hoeings in hot and prolonged droughts. Mr. Iggulden again gave demonstrations during the following days, dealing with the planting and pruning of fruit trees, methods of deep cultivation, and other useful gardening routine.—T. A.

— **CARDIFF GARDENERS.**—An interesting gathering of horticulturists and gardeners took place at Cardiff on Wednesday, December 13th, the occasion being the first annual dinner of the Cardiff and County Horticultural Society, the Cardiff and District Chrysanthemum Society, and the Cardiff Gardeners' Association, who for the nonce amalgamated, the results being most satisfactory. The dinner was held at the Park Hotel, when just 100 sat down under the presidency of Mr. A. W. P. Pike, Chairman of the Horticultural Society, and who was supported by the Mayor of Cardiff, Councillor Gerhold, the Chairman of the Chrysanthemum Society, and the Chairman of the Gardeners' Association, and many well known nurserymen. The toast of the evening—"The Three Societies"—was given by the Chairman, who stated it was a very happy idea to finish up the year's work with a reunion. Mr. J. W. Boon, an active promoter of eleven years' standing of the Horticultural Society, first responded, followed by Mr. F. G. Treasder, representing the Chrysanthemum Society. Mr. J. J. Graham of the Gardeners' Association also responded, and sketched the educative work of the Association he represented. The Mayor, Mr. Councillor Brain, in responding to his toast, said it was a pleasure and a privilege to be invited to meet so many well-known gardeners and the gentlemen of the Committee of the two shows, and he promised not only to promote their interests during his term of office, but to do all he could when he returned to private life again. The Secretaries (Mr. Harry Gillett, Horticultural and Chrysanthemum; and Mr. J. Julian, Gardeners' Association) were proposed by Councillor Gerhold, and duly honoured. During the evening Councillor Gerhold recited "The Absent-minded Beggar," and the sum of £3 10s. was collected and handed over to the Mayor's Fund. The musical programme was heartily enjoyed, and a most enjoyable evening was spent.

— **METHEOLOGICAL OBSERVATIONS AT OHSWICK.**—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1899.		At 9 A.M.		Day. Night			At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
December.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
Sunday 10	S.E.	deg. 34.0	deg. 30.8	deg. 36.2	deg. 30.9	ins.	deg. 39.7	deg. 44.5	deg. 48.9	deg. 21.2
Monday 11	N.	30.8	29.8	33.5	28.3	—	38.7	44.5	48.8	21.1
Tuesday 12	E.S.E.	33.7	32.0	33.9	26.5	0.04	37.9	43.9	48.5	21.6
Wednesday 13	S.E.	32.0	29.1	32.5	31.8	—	37.9	43.1	48.1	20.5
Thursday 14	N.E.	28.8	27.0	31.7	21.9	—	37.3	42.8	47.7	12.7
Friday 15	N.W.	27.1	27.0	34.1	24.1	—	36.8	42.2	47.4	13.8
Saturday 16	S.E.	34.8	33.2	42.9	24.1	—	36.5	41.9	47.1	12.5
MEANS ..		31.6	29.8	35.0	26.8	Total 0.04	37.8	43.3	48.1	18.3

The weather during the week has been very cold, foggy, and frosty. Snow fell on the evening of the 12th inst. to the depth of 1 inch. A partial thaw set in on Saturday, followed by a sharp frost at night.



CONSTITUTION OF ROSE SOILS.

A NEATLY printed report of the results of an analysis of soils in which famous exhibition Roses have been, and no doubt will be, grown, has been sent to us. The investigation was undertaken on the suggestion of Mr. Alexander Hill Gray, the great amateur rosarian of Beaulieu, near Bath, who gave a generous donation for the purpose. The National Rose Society thereupon appointed a sub-committee, and, as a consequence, Dr. Bernard Dyer was requested to carry out analyses of soil taken from the Rose grounds of well-known successful growers at Cheshunt, Colchester, Hitchin, and Oxford. The report of the analyst, though it does not disclose the presence of any chemical constituents in noteworthy abundance to account for the production of superior blooms, will be of interest to many Rose growers. It would seem that both Dr. Dyer and Mr. J. J. Willis mainly attribute the splendour of the Roses grown in the localities specified to the physical condition of the soils, including good natural or artificial drainage, with suitable climatal surroundings. No small part of the success of the leading exhibitors of Roses is, we suspect, the result of attention to various details in management, and having a large number of blooms to choose from when the time of trial comes. Details of the investigation will be found in the report, which, with deductions, are compressed into some twenty pages, enclosed in stiff covers, and obtainable by non-members of the N.R.S. for "twelve stamps" (penny ones, we presume), from the Rev. H. H. D'Ombain, Westwell Vicarage, Ashford, Kent; or Edward Mawley, Esq., Rosebank, Berkhamsted, Herts. A racy correspondent has more to say on the report.

ANALYSIS OF ROSE SOILS.

DURING the past season the National Rose Society has undertaken an investigation and analysis of certain noted Rose soils, which has been awaited with great interest by enthusiastic rosarians. The result has lately been published in a little pamphlet, which may be obtained by non-members from the Secretaries of the Society.

The project was to take samples, with all due precautions, from about half a dozen of the most noted Rose grounds, and then to submit them to the chemical research and analysis of high authority, and finally to compare them with each other and with the known average formulas of average soils, and see if science could tell us by these means what there is in these, or any of these, soils which makes them produce such very fine Roses.

The places chosen were the three well-known nurseries at Colchester, Mr. G. Paul's at Cheshunt, Mr. Prince's at Longworth, and Messrs. Harkness and Mr. Lindsell's at Hitchin. I regret that Herefordshire (say Ledbury) was not represented, not only because it is certainly one of the best Rose soils, but also because it seems (but I dare not say more than "seems," after reading the report) to be different in nature and composition from most average soils. The samples were taken from under grass paths, so as to be as free as possible from all the influences of cultivation and manuring.

As to the result, I write entirely as "the man in the street." Not only had I nothing to do with the matter, but I know just next to nothing of chemistry or chemical analysis, any more than (very likely less than) an ordinary gardener. Still, I am just one of those, I suppose, for whom the project was undertaken and the report written. I gather, then, from the well written and lucid introduction, as well as from the report itself, that the experiment was a failure in so far that it could not, apparently, tell us what we wanted to know—and yet not absolutely a failure in that the fact that chemical analysis cannot tell us this at present is in itself worth knowing.

It is at the very outset, at the report as to the mechanical condition of these soils, that I, as representing and speaking for ordinary gardeners, am most staggered. All of them, we are told, with the doubtful exception of the Cheshunt soil, are "sandy loams!" 63 per cent. of the Colchester soil is "clean sand!" Though clay apparently predominates in the Cheshunt soil, this is not really due to clay, but to the fineness of the sand. It (the Cheshunt soil) "probably in wet weather would almost be mistaken for a clay soil;" the inference is that Colchester soil, which has nearly double the quantity of sand, could not "in wet weather be mistaken for a clay soil!" Whereat I, after tearing my hair a little, could only come to the conclusion that the eminent analyst does not speak the same language as "the man in the street." At first I pictured myself taking him, after a good thunderstorm in July, up and down the rows of Mr. B. R. Cant's Roses, having previously assured him that he need not change his thin patent leather boots for such a sandy soil, and comforting him every now and then with the words, "sandy loam," "63 per cent. of

sand," "can't mistake this for clay soil," and so on. Then I thought there must be some mistake; and finally I came to the conclusion—which I suppose is the right one—that I, and surely a good many more, do not know what sand is.

As regards the chemical analysis, I gather that the only soil which contained anything in a proportion above the normal, was Mr. Prince's at Longworth, that here the unusual point was more readily available phosphoric acid than is common. The analyst suggests that this may have arisen from manure, or appeared to have done so; but I believe good precautions were taken. As a final result, we can only allude to mechanical condition and cultivation and drainage of the soil, with air and climate, any or all of these rather than chemical ingredients in the soil—as the answer to the question which we wanted to know.

But now I would like to draw attention to a matter alluded to in the able introduction. The writer well says that it is the petals of our Roses that we are interested in—we want to know what they, by themselves, are made of, and what especial chemical ingredient will feed them. Dr. Wolff's analysis of the ashes of the Rose is quoted from the "Rosarian's Year Book" of 1889, and he there gives analysis of the ashes of the roots, the wood, the leaves, and the flowers.

Now, what does he mean by "the flowers?" If he means not only the petals, but pistil and stamens, calyx and seed vessel, it is plain that the seed vessel would bulk as large as the petals in Ash, and yet we do not care about the seed vessel, all we are interested in is the petals. For, if you come to think of it, the petals are the Rose—according to their number, length, stoutness, and colour, is it a full, large, lasting, well-coloured Rose. When you look at a grand Rose bloom you look at the petals alone.

We must remember the petals are only a by-product of the Rose; its care is for the seed vessel, which we do not care about. We want to get the plant, as we have done to a great extent, to leave its natural course and give itself up to the production of petals, and the first step in this result, as it seems to me, and as Professor Church has suggested in this introductory chapter, is to get as complete as possible an analysis of the petals of a Rose alone.—W. R. RAILLEM.

HARDY PEAT-LOVING SHRUBS.

IN this section, as in the case of spring flowering shrubs generally, we find comparatively few natural orders represented to any great extent. In the present case the large majority belong to Ericaceæ, which, in the case of shrubs generally, shares with Rosaceæ and Leguminosæ the distinction of producing by far the greater portion of first-rate flowering plants. The representatives of the latter two orders we find will thrive in almost any soil, provided it is fairly good and well worked; the members of the former order, however, are more fastidious. With few exceptions they absolutely refuse to grow in soil containing lime, and many will do little or no good if planted in loam of the very best quality.

In those places, however, that are favoured with a well-drained peaty soil the members of this order will be found perfectly at home, and will amply repay the trouble anyone goes to in getting together a representative collection. In the other two orders mentioned we find a large number of showy indispensable plants, but for brilliant colouring and magnificent displays of blossoms from many of the larger members, and the number of choice, free flowering, and interesting plants in the ranks of their smaller-growing relatives, Ericaceæ cannot be equalled.

Roughly speaking, about 200 species belonging to this family are perfectly hardy in the southern counties; for the north these might be reduced by fifty. Add to these the large number of botanical and garden varieties of such genera as Rhododendron, Erica, Calluna, and others, and quite a formidable number is compiled. Of this total some would not find favour outside a scientific collection; others are too well known to need more than a passing glance, the garden varieties, again, being too numerous to warrant a selection. All those mentioned below are first-rate, and worthy of cultivation in any garden where this class thrives, especially when in vigorous growth and producing trusses and flowers of the finest quality (see fig. 95).

Taking the smaller genera first, *Kalmia* stands out conspicuously. Three species and a number of varieties are to be obtained. *K. latifolia*, with its large Laurel-like leaves and fine heads of pinkish white flowers; the dwarfier *angustifolia*—or, better still, its varieties *rosea* and *rubra*—makes a charming picture; while *glauca* is an attractive little bush when covered with its rosy flowers. All are North American, and flower in late spring.

Zenobia speciosa is always welcome, or, if obtainable, its variety *pulverulenta*. The latter has glaucous foliage, which is almost as handsome as its pretty waxy white blossoms.

Among the *Pieris* we have *floribunda* with short upright racemes, and *japonica* with large drooping panicles of white flowers, while in

warm localities the Himalayan *P. formosa* would be worthy of attention.

An interesting quartette is made up of *Bruckenthalia spiculifolia*, an Eastern European and Asiatic Heath-like plant with upright racemes of whitish flowers; *Bryanthus empetriformis* with rose flowers; *Rhododhamnus chamaecistus*, a very choice and interesting

Among other noteworthy plants we have the *Ledums*; the sweetly scented *Clethras alnifolia* and *acuminata*; *Enkianthus Lemothes racemosa*, whose foliage turns to a brilliant red in autumn; *Pernettya mucronata*, beautiful in flower and fruit; the under shrubs *Arctostaphylos* and *Gaultheria*, *Oxydendron arboreum*, a charming and rare N. American plant; *Dabæcia polifolia*, and others.



FIG 95.—KALMIA LATIFOLIA.

relative of the *Rhododendron*; and *Leiophyllum buxifolium*, the latter a charming little plant with Box-like foliage and pinkish-white flowers from New Jersey. All four are small in stature, and make excellent plants for the rock garden.

Of genera containing a larger number of species we have *Erica*, *Arbutus*, and *Rhododendron*. Of the former the well known *carnea*, *vagans*, *tetralix*, *mediterranea* and *cinerea* are worth growing, while of the choicer, *australis*, *lusitanica*, *scoparia*, and *arborea* must have a

trial. *E. lusitanica* is the tenderest of the set, and will only do in favoured localities. *Calluna vulgaris* is represented in gardens by a large number of varieties, most of which are worth growing.

The free flowering qualities of the different species of *Arbutus*, together with their deep green foliage, and oftentimes handsome fruit, warrant them the place of distinction they are often given in gardens.

The *Rhododendron* is almost too large a genus to take here. Everyone is familiar with the gorgeous displays made by the larger growing species and varieties of evergreen and deciduous sections, but many of the small growing choice species are rarely seen. Of these mention must be made of the two new Yunnan species, *yunnanense* and *rubiginosum*, the winter flowering *dauricum*, *R. ferrugineum*, *glaucum*, *Smirnowi*, *racemosum*, *myrtifolium*, and the curious little *lepidotum*. Mention should also be made of *R. indicum* var. *amoenum*; this is quite hardy as far north as Chester, and does better outside in beds than when grown in pots.

Added to the plants mentioned belonging to *Ericaceae* there are the members of *Vacciniaceae*, principally peat-loving plants, the *Skimmias* and other subjects, the whole going to form a most interesting collection, a strong point in its favour being the large number of showy and free flowering shrubs contained.—W. D.

APPLES.

ALL THE YEAR ROUND.

SOME time ago in a Kentish village I was shown an Apple, which is known locally as the All the Year Round Pippin. This name doubtless applies to the keeping qualities of the variety, the samples of which when shown to me were a year old, and yet firm and crisp. The Apple is something after the character of a small Cox's Orange Pippin, and of fair flavour, even at that age. It would be interesting to know whether any reader of the Journal has any knowledge of an Apple of this name or character. The tree from which the fruit was obtained is an ancient one, but it is the only instance where I have met with it.—G. H. H.

SPLITTING OF APPLES.

I WAS glad to observe (page 495) that your esteemed contributor Mr. G. Abbey dwelt at length upon the "splitting" and "cracking" of Apples. He, however, perhaps inadvertently, remarks his surprise at my statement, "not a common occurrence;" but in the next paragraph contradicts himself by remarking that "the splitting of Apples is not very common." It is almost needless to say that I was fully cognizant of the cracked and scabbed condition too often found affecting both Apples and Pears in our orchards.

Appropos of endosmose, I may remark that recently a few fine specimens of Peasgood's Nonesuch Apples came under my notice. They were sent to me from Hereford, and after having been kept in a warm and dry room for a few days, to my surprise they split, consequently I am somewhat puzzled as to the real cause, unless it was owing to the more than ordinary amount of gas heat, kept up for several hours in each evening in the room; and it is said that gaseous matters can be transmitted through the porous skin of fruits. Curiously, however, several other varieties, including Golden Noble, Emperor Alexander, and other thin-skinned varieties were not similarly affected.—W. G.

I, LIKE "W. G." (page 442), have had Apples of the Codlin type, such as Lord Suffield, Lord Grosvenor, Golden Noble, and others, in the condition he described. I cannot really say what is the cause of splitting, but a preventive is not to keep the varieties out of their season. Perhaps evaporation of the essential acids may have something to do with splitting. The flesh becomes mealy, and if this mealy portion be tasted there is found to be very little of the acid left that would almost set the teeth on edge earlier in the season. It appears to me that through evaporation of the juice of the fruit the cells become filled with air, which causes the flesh to swell and burst the rind.

We have a worse disease than splitting—namely, spotting over the rind. If the fruit be not used soon after spotting begins it may be thrown away. Warner's King suffers very much from the effects of spotting. The present year has been one of the worst that I can remember for the hardy fruit grower. What the late spring frosts spared, the wasps, birds, and gales have nearly ruined. The titmouse or bluecap and blackbirds are the greatest enemies that the gardener has to contend with in his efforts to grow hardy fruits.—G. P., *Hesslewood, Hull*.

THE BEST LATE APPLES.

I WAS pleased to see Mr. T. Welch pass such a favourable opinion on Newton Wonder. Bramley's Seedling is a fine Apple where the soil and surroundings are suitable; but I prefer Newton Wonder as a better shaped fruit. For keeping I do not find much to choose

between the two when they are placed side by side. There is not much to be said against Dumelow's Seedling as a culinary variety and good keeper. New Northern Greening is a very useful Apple, but not large enough for me. If any person requires an Apple for keeping qualities alone he must plant Winter Greening, known also as Easter Pippin, Ironstone Pippin, French Crab, and some other names. I have taken prizes the following August after gathering with the above variety in very good condition. Alfriston is a good late Apple, frequently keeping well into May. Betty Geeson is another good keeper. If planters would confine themselves for later varieties of Apples to Newton Wonder, Alfriston, Dumelow's Seedling, Lane's Prince Albert, and Bramley's Seedling they would not be far wrong. When planting on cold or uncongenial soil lay the roots on the surface, cover with 6 to 9 inches of the best soil that can be obtained, stake securely, mulch with 4 to 6 inches of half-decayed manure, and success may be expected to follow.—G. PICKER, *Hesslewood*.

KENTISH PIPPIN.

I AM obliged to "W. S." (page 513) for his reply re this Apple, and by his description I feel sure it is the same kind I mean. Doubtless there are many seedling forms of Blenheim up and down the country under various local names, and many are only very little different one from the other, but the Apple in question is at least distinct enough to warrant its being named. I for one should be very pleased to add it to my list if I could obtain scions. I remember it doing well in a low-lying orchard that almost every season was flooded by the Frome, that troublesome and turbulent little river that has flooded Bristol so many times, and have also seen it in the locality named by "W. S." in his courteous note, and all up the Severn valley. Some of these days one of our big fruit nurserymen may get hold of it and send it out under a new name; such things have happened, and with less worthy kinds.—H. R. RICHARDS.

HOARY MORNING AND KENTISH PIPPIN OR COL. VAUGHAN.

IF I may be allowed to say so, the above and all others of a like quality should be consigned to the rubbish heap, for nothing retards British fruit culture more than growing Apples of second and third-rate quality. Better far grow a few varieties of unquestionable merit than an orchard full of those that have nothing to recommend them but their looks. Why anyone can wish to grow Apples of a mediocre quality when trees of such splendid sorts as Cox's Orange Pippin and others can be had just as cheaply, and take up no more room, I cannot understand. Then, again, as to price. Cox's are never to be bought here retail for less than 5s., and are usually 6s. per stone, whilst Apples of the quality of Col. Vaughan go begging at 2s.—F. BOYES, *Beverley*.

P.S.—Your correspondent "W. S.," in last week's issue, mentions an Apple grown in the West of England as Kentish Pippin, which he thinks might be a seedling Blenheim Pippin. He states the fruit was repeatedly sent away, but no one could name it. I would ask him to send a few fruits to the Editor. Anyway, if the variety be a named one it can certainly be identified, and if a really good seedling it ought not to be lost.—F. B.

APPLES IN HOLDEBNESS, EAST YORKSHIRE.

HOLDEBNESS, on the East Coast, owing to its exposed position, catching as it does those terrific winds fresh from the North Sea, cannot, by any stretch of imagination, be considered an ideal locality for hardy fruit growing. Nevertheless, at Winestead Hall, the seat of H. J. Reckitt, Esq., M.P., some very fine Apples have been grown this season by Mr. B. Kirby, the gardener there. Young pyramid trees of many leading kinds of both dessert and culinary Apples were planted one year and ten months ago. The soil is of a rather holding nature, what gardeners usually call a good bodied loam, with a clay subsoil.

The ground was well trenched, the trees placed on the top, and the roots covered with new loam, forming small mounds. They are well mulched twice a year, kept watered when necessary. They have mostly carried some grand fruit, but one tree of Warner's King carried six magnificent examples, the largest weighing 2 lbs. when gathered. It, with others, was shown at Beverley Chrysanthemum Show, and received a special prize. I am aware this is not a record, as I see in Mr. Bunyard's excellent catalogue mention of one 32 ozs., but this was Kent grown.

Much has been done in improving the culture of hardy fruits of late years, and I mention the above example in the hope that intending planters may not be deterred, even though they may not have the best of positions, climatic and otherwise to assist them, from trying what they can do. Wonders may be worked by intelligent and painstaking gardeners. Another example witnessed by myself and many more was afforded by the hardy fruit at Hesslewood this autumn, grown under conditions anything but favourable, naturally, by Mr. Picker. It was a sight he might well be proud of, and I hope he will excuse the writer if he also feels a little conceit in counting himself as one of the friends of such an able grower of hardy fruits.—G.

DECORATING A DINNER TABLE AT CHRISTMAS TIME.

HOLLY and Mistletoe are indissolubly associated with Christmas festivities, and in all the decorative work carried out at this season they are usually introduced with more or less profusion, sometimes with success in regard to effect, at others the prevailing idea seems to be use bright berries and glossy leaves in abundance rather than to display taste in the arrangement. A true echo this of the Christmas Days of old.

In decorating a dinner table on Christmas Day, it should, I think, never be considered complete without the introduction of Holly leaves and berries, and although when these and Mistletoe are exclusively employed pleasing combination may be made, yet with the utmost skill in arrangement the effect is somewhat stiff when compared with arrangements in which flowers and other greenery are also intermixed. When the latter plan is followed the leaves, shoots, and berries should be employed to form the groundwork, and the flowers and foliage to give a light surface. In many establishments where there is a quantity of valuable plate, gardeners have to use it at such times for arranging their material in, although they are in most instances far too heavy in appearance to get the light well balanced effect required to suit the good taste which now prevails. When small specimen glass and taller flower stands, as well as pretty china ornaments, are pressed into service, excellent arrangements may be made, but in all instances I like to see whatever receptacles are used deftly arrayed at the base with foliage, flowers, and berries, so that the arrangement forms a complete whole, instead of a disunited number of atoms. My favourite method of carrying out this kind of work, however, is to do away with all such receptacles—excepting in some instances a light trumpet shaped glass for a centre—and let all the materials spring from the cloth.

I will, therefore, briefly detail a method of decorating a table for Christmas Day which I trust will be helpful to some. For a central object a well grown plant of *Coccoloba Weddelliana* or *Cyperus alternifolius* is suitable. Place either in a circular or oval shaped tin from 9 to 12 inches in diameter, and 2 inches in depth, and fill in with damp sand. Surround the tin with a little moss, then edge in an irregular manner with shoots, leaves and berries of Holly and Mistletoe. A few growths should be wired so as to be able to "set them up" here and there to avoid stiffness. Do not make a formal outline, but bring out prominent projections here and there. At other suitable points place small plants (turned out of the pots) of *Coccoloba*, *Cyperus*, or *Carex japonica variegata*; place little mounds of moss around these, then proceed to connect all plants by a light tracing; small shoots of well-berried Holly and detached leaves serve the purpose admirably. I seldom attempt any set plan for such tracing, but arrange the materials to look like a continuous light spray, with irregularities here and there, always avoiding heaviness, and varying the ramifications as much as possible instead of making them "match" at certain points, a practice which so many consider imperative. The groundwork being finished, the flowers can then be quickly arranged, *Scarlet Tulips*, "*Geraniums*," *Poinsettias*, or a mixture of one or other of these, and *Roman Hyacinths* form a pleasing combination.

When *Poinsettias* are employed they must be arranged thinly, making every bunch tell, and employ small *Cyperus* or *Carex* shoots, as well as Fern fronds and Grasses between. Some of the smaller bracts look well when fixed slightly above the moss surrounding the small plants; they can easily be so fixed by the use of stout wires. *Tulips* and *Hyacinths* work in splendidly together. Use them with the bulbs attached, mount some of them on thin stakes inserted in the sand placed in the central line, use others without mounting, arrange thinly, and fix a few spikes of *Hyacinths* between; also let a few spring from the irregular tracing around the tin, then employ Fern fronds to hide the mounting, and Grasses and shoots to lighten.

Place other flowers at the base of all plants on the table; it is easy to set others up in the moss by the aid of a few wires. Sometimes only two, three, or even one are required; but in each case finish the base with Fern, and aim to have bits of colour springing up here and there, so that the whole appears well balanced. A single *Tulip* inserted here and there along the tracing looks pretty; a tiny piece of moss to hide the bulk, an extra leaf or two, and a few berries are all that are needed to give finish. In some instances in the lighter parts of the tracing a flower can be wired to the Holly shoots, and fixed in quite a natural manner. If on any part of the table there appears to be too bare a space, run out a little natural branch-like projection from the main tracing, and fix to it a flower if it seems required, but err rather on the side of lightness than in the opposite direction. A few *Solanum* shoots with well-coloured berries set up from the groundwork give a bright touch, and variegated Holly leaves should be intermixed with the green ones.

The above is one of the many arrangements which I have carried

out on a large scale at the festive season, and those who may be led to adopt it this year will, I think, have every reason to be satisfied with the effect produced.—H. D.

HARDY BORDER FLOWERS.

ANEMONOPSIS MACROPHYLLA.

THIS is a very handsome plant, which makes its way but slowly into cultivation. It is not kept in stock by the nursery trade in general, and its being offered in the catalogues of a few only, keeps it from the notice of a large number of those who care for such plants. *Anemonopsis macrophylla* is one of the many fine plants we owe to Japan, whence it was introduced in 1869. It is quite hardy in most gardens in which it has been tried throughout the British Isles. It likes a good loamy soil, and should not be allowed to become too dry in summer, although it objects to excessive moisture. In its general aspect it reminds one of *Anemone japonica*, although it is not quite so large. The flowers may be called lilac, and are produced in racemes. The leaves also present some resemblance to those of the *Anemone* already named. It grows a little over 2 feet high. It is increased by seeds and by division of the root in spring. It is a flower which could with advantage be more widely grown.

ANTHEMISES.

There are several *Anthemises* or *Chamomiles* which are of service in the flower border, but none are as valuable as the old *A. tinctoria*, the *Dyers' Chamomile*, whose *Marguerite*-like flowers are often found serviceable. It is an old native of Britain, and must have been grown in gardens for a great number of years. It seems almost unnecessary to give any description of it now, yet one finds that many have not the most remote idea of what some flowers are like. To such it may be said that the *Anthemis* resembles a yellow *Paris Daisy* or *Marguerite*, with finely divided leaves. Its usefulness in the garden and for cut flowers has led to an attempt to produce a wider range of colour, together with an improvement in the form of the original deep yellow *Dyers' Chamomile*.

This attempt has not been in vain, and has been far from difficult, as the plant seems naturally sportive when introduced into gardens. From one yellow plant the writer has raised several ranging from white to deep yellow, and showing considerable difference in form. The pure white forms are perhaps the least appreciated, as there are flowers enough of the same shape and colour at that season. The pale yellow varieties are, however, very pretty. *A. tinctoria pallida* is one which can be recommended. A good variety of shapely form and satisfactory colour is *A. t. Kelwayi*, from that noted garden at Langport whence come so many fine *Paeonies* and other good flowers. Then there is a form called *Canary Bird*, with others varying in merit. References have also been made in the gardening press to a variety raised by Mr. Buxton, of Coed-Derw, Bettws-y-Coed, which is an almost continuous bloomer. *A. tinctoria* may be increased by division, cuttings, or seeds.

ANTHERICUMS.

The plants generally known to hardy flower growers as *Anthericums* have been removed by botanists to other names. For garden purposes it will, perhaps, be more convenient to the reader to speak of them now rather than to place them under the names by which they are known to botanists.

The plant formerly known as *Anthericum Hookeri* is better known as *Chrysobastron Hookeri*, although it is also called a *Narthecium*. It is a pretty plant with Iris-like leaves and spikes of pretty yellow flowers. It grows from 1 foot to 2½ feet high, according to soil and position. It likes a rather moist place, and can be grown in a bog, although it also does well in the border if well supplied with water. It is a native of New Zealand, and was introduced in 1850. A superior species, named *C. Rossi*, is mentioned in some works. I have not met with this under name, but I think the more vigorous of the two forms grown under the name of *C. Hookeri* may prove to be *C. Rossi*. These plants may be increased by division.

The white-flowered *Anthericums* are more properly *Paradisias* or *Czakias*. They are very beautiful plants, which thrive best in a light but not too poor soil. *Anthericum Liliago*, *St. Bernard's Lily*, is a desirable species, with pure white flowers in June, an inch or more across, and on stems a foot to a foot and a half long. There is a superior variety named *major*. *Anthericum Liliastrium* is a still finer plant with larger flowers, whose attractions are added to by their perfume. The flowers are in tall spikes about 2 or 3 feet high, and are about 2 inches in width and length. There are several forms of this fine *St. Bruno's Lily*. That named *major* is especially good. It grows considerably taller than the type. *A. ramosum* or *graminifolium*, which grows about 2 feet high, has smaller flowers, and is, upon the whole, less to be desired than the others named. These *Anthericums* may be raised by seeds or increased by division.—S. ARNOTT.

CHRISTMAS ROSES.

THOUGH the term Christmas Rose is sometimes applied to the Hellebore: generally, only the black (which has reference to the root) Hellebore, *Helleborus niger* and its varieties, have right claim to the popular title. The true Christmas Rose produces splendid crops of pure white flowers, when protected by glass, 2 to 3 inches across, borne on stout leafless scapes, at the exact time required—Christmas. The colour varies somewhat from influences of different soils and situations, being in some locations tinged with rose externally, and in others the flowers are white throughout.

The rose tinge also pervades *H. n. angustifolius scoticus*, the flowers of which are white internally, and slightly tinged with rose externally. The plant is dwarf and compact, very floriferous, and comes into flower much earlier than the species. There is also a form of *H. n. angustifolius* called the Manchester variety, with large numerous flowers, pure white throughout. The leaves and stems are light green, and the handsome flowers are pale green, devoid of spots. Then there are the Bath Christmas Rose, bearing large pure white flowers; and St. Brigid's Christmas Rose, with green leaves and large snow-white flowers, produced in great profusion. Madame Fourcade produces pure white flowers.

To crown all, the Great or Giant Christmas Rose, *H. n. altifolius* or *maximus*, has large flowers, sometimes 5 inches across, one to three on each stalk, white internally, tinged with rose externally, becoming deeper as the flower advances in age. This variety usually opens with a tinge of pink in the petals during the autumn and early winter months, while after the New Year the blossoms are white. The season of Christmas Roses lasts from November to February inclusive.

Hellebores thrive in almost any ordinary garden soil, but a deep rich loam, with a moist, rather shady, perfectly drained situation suits them best. They delight in a mulch of good decayed manure or leaf mould freed from sticks, placing it on the ground as soon as the flowering period is over. When wanted to give flowers for cutting the stock should be planted in such a position that can be readily covered with frames. An ordinary two-light frame will, if the plants are well grown, afford thousands of blooms for cutting during the months of November, December, January, and February. It is no use, however, expecting any from a cold frame when frost is master of the situation, for the blooms are "nipped" by 5°, and ruined by 10° of frost.

By keeping the lights closer or the opposite during December, according to the state of the weather, blooms can always be had at Christmas. In case of a prospect of very severe weather, the buds may be cut and the flowers allowed to expand in water, in a warm house. In most cases a covering of mats during frosty weather will afford the needful protection, never uncovering until the frost inside the frame has departed. During mild weather in early spring too much air cannot be given, so as to gradually harden the plants and inure them to the open air, and when new growth is being freely made the frame should be removed. This in most cases will not be safe until March winds have ceased to blow, for the plants must not be crippled in their new growth, and even after the frame is taken away some temporary covering should be at hand to protect the plants from frost.

Top-dress with decomposed manure in the spring, and give an occasional soaking of liquid manure when the plants are in full growth, not forgetting that copious supplies of water are beneficial in dry weather. Hellebores like moisture, but they never thrive on a heavy retentive soil in a waterlogged condition. They also detest frequent disturbance at the roots. Still the plants may be lifted, and placed in gentle heat under glass, but they should not be forced much, and they must be well hardened before planting outside again.

The best plan, perhaps, of growing Hellebores for forcing is to prepare them for the work by planting in beds of good turfy loam, adding about a third in equal proportions of peat and leaf mould. Top-dressing or mulching should be attended to in the spring and again early in June, watering in dry weather and giving liquid manure occasionally. The plants should be allowed to become strong before attempting to move the roots, then they can be lifted in September or early in October, potted if so desired, grown, and kept in a cold pit, treated as before advised for frames. Or they may be planted in pits with sufficient piping to exclude frost in the severest weather, the plants not being further from the glass than 12 to 18 inches. Lifted with balls and placed closely together with some rich compost for packing, the plants take hold of the new material and push flowers abundantly from November to the middle of February. The plants can be used about every second year, being planted out after flowering.—G. ABBEY.

VALE ROYAL, CHESHIRE.

THIS beautiful domain, situated near Northwich, is the seat of Lord Delamere. It stands amidst charming scenery, close to the banks of the river Weaver. Vale Royal was the site of a Cistercian monastery,

founded in 1277 A.D., part of the old Abbey being incorporated in the present building. The hall is of red sandstone, and consists of a centre and two wings. It was considerably improved and restored by the late and second Baron Delamere. The entrance porch in the centre is very fine, and in the anteroom adjoining the walls are covered with implements of war and trophies of the chase. In this room, and in the corridor, the windows are richly dignified with stained glass, principally heraldic. The great hall, 70 feet long, with vaulted roof with ribs of oak, contains family portraits, some of them by Rubens. The present Lord Delamere is a mighty hunter, and two rooms are devoted to the big game that has fallen to his prowess. The walls are covered with heads of lions, tigers, innumerable species of deer and antelopes, with single heads, consisting of an elephant's head and trunk, a rhinoceros, a hippopotamus, zebra, and giraffe. Large glass cases contained two remarkably fine lions in combat, another large lion and a tiger, besides a large quantity and variety of skins.

The park at Vale Royal extends to 450 acres. But the gardens for some time have been allowed to go back. However, with the recent marriage of Lord Delamere to a daughter of the Earl of Enniskillin, and the appointment last spring of a young and energetic gardener, Vale Royal has already gained some of its pristine beauty. Of course a dreary December day is not one to admire Nature's wealth of charms, and particularly when frosts and snows have for a time looked earth's beauties in the tomb. However, I had a very kind reception from Mr. and Mrs. Russel.

The first houses I entered formed a fruit range houses of about 300 feet in length, and comprised three Peach houses, the trees of which are old, but very well set with buds and well ripened; three vinerias, but containing somewhat ancient Vines, and Mr. Russel has made a start to renovate two of them. One is to be planted with good canes of Muscat of Alexandria, the other with Madresfield Court, with a rod in each of Gros Maroc. A small conservatory adjoins the mansion, the back wall of which is covered with Ivy-leaved and single Zonal Pelargoniums. The floor and side stages were arranged with small Palms, Tree Ferns, and other decorative plants. The two supporting girders to the roof Mr. Russel has planted with white Clematis, which will be most effective.

We next inspected what I think is the most imposing house on the estate. It has a length of 120 feet, a breadth of 12 feet, and a height of 20 feet, with a lantern roof. It has two transepts midway, each having a length of 18 feet by a breadth of 12 feet. Running the whole length on each side, and continued along the transepts, is an open stage of 8 feet in breadth, under which Mr. Russel has formed a narrow border, enclosed like a box, and has planted thirty varieties of climbing Roses, Teas, Noisettes, and Bourbons. They were planted early last summer, and have made fine growth, and will, when established, produce a grand arcade, from which it will be possible to cut Roses in profusion at any period of the year. Amongst the varieties I noticed were Maréchal Niel, Gloire de Dijon, Rêve d'Or, W. A. Richardson, Belle Lyonnaise, Madame Pierre Cochet, Solfafter, Safrano, Climbing Niphotos, Madame Alfred Carrière, Ophiré, and Triomphe de Rennes.

A span-roofed Carnation house held a stock of about 250 young, clean, healthy Malmaisons of the older varieties, with about fifty Churchwarden and several dozens each of Uriah Pike and Duchess Consuela, as well as a number of tree varieties and several dozens of Germania. It would not be easy to find a healthier collection. Mr. Russel, it may be worth mentioning, strives to keep the temperature at about 40°. Roses in 10-inch tubs occupied another structure. They were mainly represented by Niphotos in fine bushes, and there would probably be about two dozen plants. In an adjacent house were small Crotons and Gardenias with other warm house plants. A 50 feet three-quarter span-roofed house was filled with large plants of *Coslogyne cristata*, the remaining space being occupied with *Cypripedium insigne*, *Zygopetalum Mackayi*, and a few dozens of large *Adiantum cuneatum*. A rock fernery 50 feet long had about two dozen robust plants of *Asparagus plumosus* trained up the front of the roof. From this house frost is only just excluded.

There are four other vinerias, but the Vines are old, and they will be gradually replaced by younger canes. Two other span-roofed houses are filled with Roman Hyacinths and *Smilax asparagoides*. It will be observed that as yet plants are not largely grown, as Lord and Lady Delamere have been very little in residence, and are now abroad.

The time of my visit precludes me saying much about the outdoor garden. In a large patch of grass near the mansion Mr. Russel has planted in informal beds 400 Hybrid Perpetual Roses. Crimson Rambler has been planted on various walls in company with other climbing plants. There are several acres of kitchen garden and a large orchard of fine young half-standard trees, probably nine or ten-years of age, very clean, healthy and fruitful. These consist of the best varieties of cooking Apples, such as Lord Grosvenor, Lord Derby, Lord Suffield, Escklinville Seedling, Bramley's Seedling, Cox's Pomona, Lane's Prince Albert, and Warner's King. I had almost forgotten to mention many fine stocks of Callas in 10-inch pots and tubs. There are about a hundred plants, each pot or tub having at least six spikes, and they will be most effective in the new year. These Callas are remarkable for their health, without gross leaf growth. Mr. Russel informs me they had not been disturbed at the roots during last season, but the pots or tubs were plunged in the open.—F. STREET.

NOTES ON CLIMBERS.

MANY plants of climbing habit are now used for the decoration of pillars, walls, and rafters in stoves and conservatories. Some climbing plants require an exotic heat to grow them well, and others succeed best when grown in a cool atmosphere; in fact, there is no scarcity of choice plants of both classes, and a careful selection from both will add beauty and interest to all kinds of plant structures. Some plants have sweet-scented flowers, others have showy leaves without flowers of any importance; but, with the great demand for cut flowers which now exists in nearly every garden, climbing plants that will supply plenty of flowers suitable for cutting are those most in demand, and which deserve to be grown most extensively.

Amongst stove climbers the old *Stephanotis floribunda* is well known to be of great value. Its green leaves have no special attraction, but its flowers are unsurpassed in their purity of colour and fragrance. Cutting them does not disfigure the appearance of the plant, and there is no kind of floral arrangement into which the flowers cannot be wrought with advantage. The *Stephanotis* is very common, yet I do not think it is so much grown as it should be for cutting from. Instead of growing only, perhaps, a single plant of it up a rafter, it should be planted in every odd corner of a heated structure where space can be afforded.

The worst feature of the plant is its dirty nature. There is no plant in our gardens to which mealy bug and other insects are more attached. Still, when these are not allowed to make much headway, it is surprising how little attention the plants require in the way of being kept clean. Frequent sponging is the best way of cleansing, and syringing has a tendency to accomplish the same end.

Allamandas are useful hothouse climbers so long as the flowers are only wanted on the plants, but I have never found them in much demand in a cut state. All the flowers are yellow, and rather clumsy in form, but they are generally produced in great numbers, and are very showy on the roof of a stove. A. Schottii does not produce such large flowers as A. Hendersoni, which is the variety most to be preferred.

Dipladenias might be classed with Allamandas so far as the form and general character of the flowers is concerned, but the former are much more attractive than the latter; indeed, the Dipladenias are the finest flowering stove climbers we possess. I have no doubt the old rosy crimson flowering D. amabilis will be the best known to many readers, and although it is not so brilliant as the newer D. Brearleyana, it is still to be preferred, as being freer in growth and more likely to succeed with those not accustomed to deal with shy-growing plants.

Were I restricted to one stove climber besides the *Stephanotis*, I would have no hesitation in selecting *Clerodendron Balfourianum*. Its lovely crimson and white flowers are not only highly ornamental on the plant, but in a cut state they are exceedingly useful, and as they are always produced in abundance the value of the plant is thereby much increased.

These four distinct stove climbers may all be grown to perfection under the same circumstances. The plants are often placed in pots and trained round small trellises; but their attractions are never seen to the greatest advantage under this restricted system of growth. To develop their beauty to the fullest extent every one of them should be planted out and allowed plenty of room for extension and development. A mixture of loam, peat, and sand suits them well, and good drainage and liberal cultivation in every way I always find to be most remunerative.

Hoya carnosae is a quick-growing plant, which does better in a warm stove than in a cool greenhouse. It delights in plenty of peat and sand. The flowers are produced in clusters, are pinkish white in colour, and of a waxy texture. They are admirably suited for bouquets and buttonholes.

The best of the *Passifloras* for general purposes I consider to be *alata*, *amabilis*, *fulgens*, and *quadrangularis*, all the flowers of which are very attractive, and the fruit of the last-named is of considerable merit for dessert. Like other climbers they do best planted out, and a little decayed manure may be added to the loam and peat in which they are placed.

Those selecting greenhouse climbers must never think of leaving out the two *Lapagerias*, *L. rosea* and *L. alba*. The finest plants of both kinds have ever seen were planted out in rough loam, peat, and sand, with plenty of drainage, and they were perfectly saturated with water while asking their young wood. The white one is rather slow of starting into growth, but when it does begin it grows as freely as the red one.

I have long found *Fuchsias* and *Roses* excellent in the conservatory, and when they cannot be planted out in borders they should be grown in boxes or tubs of a good size. *Plumbago capensis* is also useful, especially after it has become established, as then enough flowers are produced to make the plant ornamental, and plenty to cut from besides. *Acacia luciana* is a grand climber. Large quantities of its graceful shoots can

always be cut away when in flower without being missed. What the *Passifloras* are in the stove *Tacsonia Van-Volkemi* is in the greenhouse—free-growing and excellent. The old *Cobaea scandens*, which is a favourite in some greenhouses, often grows too rampantly, and it supplies nothing for the flower vases. Its variegated form, however, is attractive from its pendent sprays of lively foliage, and is suitable for drooping from the roof of a lofty conservatory.—R.

THE ROYAL NURSERIES, NEWTOWNARDS.

IT was in 1819 that the late Mr. Alexander Dickson came over from Lasswade, Wigtownshire, and settled at Newtownards, to build up the great business which is now carried on by his son, Mr. George Dickson, J.P., who is in turn assisted by his widely known and respected sons. In *Roses* alone the firm has become world famed, but readers must not infer that these are the only commodities to which attention is turned, for everything that goes to make up a successful horticultural undertaking is grown in such a thorough manner as to compare with the best of what we have in England. If this were disputed, a short run from Belfast would soon land visitors into the fine old town, with its broad streets and primitive-looking houses, there to see the successful work of this noted house.

ROSES.

It would be well to speak of these first, for until the wonderful Irish *Roses* came into our midst, the large distinct classes at exhibitions had many times to be filled with inferior varieties. Now this is all changed, it being no uncommon feature to see more than a score of their introductions holding high honours in one class. These at the beginning of a lovely September day were seen in brilliant condition, the stock consisting of some 200,000 Hybrid Perpetuals and 35,000 Teas. Hardiness seems to be the great thing aimed at, and certainly the strong sturdy plants growing on the exposed hillsides, open to all the winds that blow from the sea, some two miles distant, were an indication that with proper attention in preparing the plants from the time of budding, results are more than satisfactory. The work is faithfully done; every *Briar* and *Manetti* is budded close on to the root, the soil being carefully scraped away from the stem until the bud starts. Suckers are kept removed, so that when the bud starts into growth the stock may be planted so as to just cover it, the idea of suckers being reduced to a minimum.

FRUIT TREES.

These occupy many acres, and as in the *Roses* the same generous treatment prevails, every tree not being allowed to remain longer than two years in one position. In addition the pruning is done most systematically and at much extra labour, the customers getting the benefit in trees bristling with fruit buds and with abundance of fibrous roots. Stocks of all kinds are used, but the free Apple which the firm thinks so much of proves itself splendid, judging from the wonderful crops on trees between 2 and 8 feet high. Every form of training is beautifully carried out, the horizontals in particular being perfect models. The best tried varieties are grown as well as many local sorts.

SHRUBS AND CONIFERÆ.

Many acres are given up to these, nothing old or new likely to satisfy public opinion being omitted. The work alone in planting—for every plant stands clear of its neighbour—must be enormous; but this seems to be the golden rule adopted throughout the nursery, consequently the formation of the plants is quite perfect. I could go on for a length of time in describing the varieties, all so well represented, from the tiniest pieces to the splendid half-specimens and specimens; but the catalogues do all that. Herbaceous plants, florists' flowers, bulbs, and indeed everything so suitable for outdoor culture, could not have been seen in greater profusion. Turning from the many good and choice pictures represented, we come to the trials of vegetable and flower seeds under the care of Mr. Hugh Dickson. Especially interesting they were, embracing stocks from almost all parts of the world, and testing them with our best introductions. By this means the cream of them are chosen.

GLASS DEPARTMENT.

This is kept well up to date, huge stocks of everything good being found in abundance. Particularly noticeable were the well ripened Vines in pots, good and substantial, in all stages. Three huge houses were devoted to climbing *Roses* in pots, and I looked in vain for a weakly plant. The houses of seedling *Roses*, with just one or two unfolding their beauty, made me long to see the whole set in flower, but no doubt the public will have the pleasure of sharing the privilege with me at the

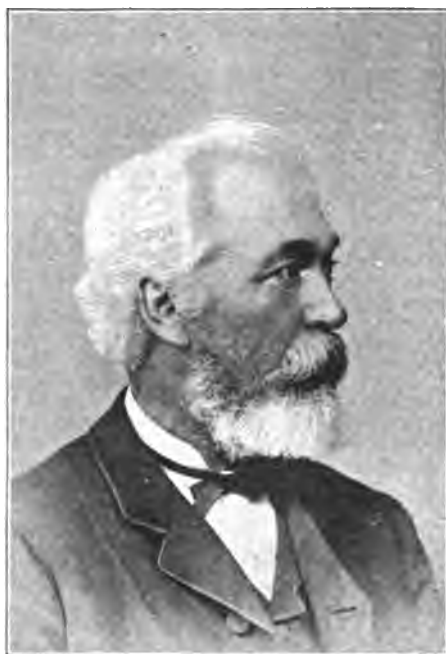


FIG. 96.—MR. GEORGE DICKSON, J.P.

next few seasons' shows. Stove and greenhouse plants were especially flourishing. A lovely drive by car to Belfast and we call at the shop and warehouse in Royal Avenue. This shop with its four storeys is replete with every convenience, and sufficiently large to accommodate a large regiment. One storey is devoted to a choice out flower trade, one seeds and bulbs, one implements, and the last to farm seeds. Order and precision are noted in all their undertakings. The clever sons are well known everywhere, and readers will be pleased to see the portrait (fig. 96) of the present head of the firm appearing in the Journal.—A VISITOR.

OBITUARY.

THE announcement of the death of Alfred Outram has come as a sad surprise to many, for certainly few horticulturists were better known than he was, and by all greatly esteemed. He seemed always to show the same imperturbable disposition, and was equally genial and kindly to all. The Gardeners' Orphan Fund has lost by his untimely death a warm and an active friend. The announcement of his decease, and I pray it may be the last of horticulturists during the present fateful year, induced me to look up the lists of the Royal Horticultural Society's Committees, of one of which Mr. Outram was a member, to note how far these had suffered through death during the year. So far as my knowledge goes the Floral Committee is the only body that has lost no members.

The Orchid Committee has suffered most, having lost Major Mason, Mr. Sydney Courtauld, Mr. W. H. Protheroe, and now Mr. A. Outram. Then comes the Fruit Committee, of which body three—Mr. T. F. Rivers, Mr. T. J. Saltmarsh, and Mr. Malcolm Dunn—have gone to join the honoured dead, whilst M. Henri Vilmorin has gone from the Narcissus Committee, and, I believe, Dr. Frankland from the Scientific Committee. A specially painful feature of the mortality thus detailed is found in the numerous deaths whilst yet in the prime of life. Mr. Courtauld, Mr. Rivers, and Mr. Dunn were not really aged, and Mr. Vilmorin, Mr. Protheroe, and Mr. Outram were in practically the prime of life. The others had got well into years.

Outside the ranks of the Committees, of notable men who died whilst yet in the prime of life were Messrs. W. H. Girdlestone and James Martin, and probably some others also that I do not at the present moment recollect. Surely, as horticulturists, we have many reasons to remember the now dying year of 1899, for it has carried off many old and dear friends. We may now well pray that Old Father Time may take a long rest.—A. D.

DEATH OF MR. THOMAS SORLEY, FALKIRK.

WE deeply regret to record the death of Mr. Thomas Sorley on December 2nd, aged seventy-eight years. The deceased was one of the best known gardeners in the North by reason of his distinguished success as a cultivator of Orchids, stove and greenhouse plants. Mr. Sorley was head gardener to the late Provost Russell, of Mayfield, Falkirk, for many years. The latter was a proprietor who loved horticulture, and warmly supported all matters associated with gardening. Mr. Sorley was looked upon by his compeers as an authority on Orchid culture.

Mr. Sorley's grand exhibit of stove and greenhouse plants at the International Horticultural Exhibition held in Glasgow nearly thirty years ago was considered to be one of the finest displays of horticultural skill ever seen in Scotland. I well remember the unique collection, and also the laudations of the Judges and others who were present on the occasion. Mr. Sorley's faculties were all (except that of hearing) keen to the last. His love of gardening and his display of humour were always in strong evidence. A few weeks ago we saw him busily engaged in the arrangement of stalls of fruits and flowers at a bazaar. He naively remarked (tapping his ears at the same time) that Orchid growing had left him a permanent legacy, meaning deafness. He has for some years managed the gardens of the Misses Gair at Kilna, Falkirk. The deceased leaves a widow to mourn his loss.—M. TEMPLE, *Carra, N.B.*

THE LATE MR. ALFRED OUTRAM.

EVERYONE who knew him—and what gardener did not?—would be sorry to read the announcement of Mr. Outram's death. There was no better known figure in the world of horticulture, and he seemed to be inseparable from all the great exhibitions, both in town and in the provinces, where his portly presence will be missed. In the obituary notice the Editor speaks of Mr. Outram's geniality, and to this I would add a word. For some years I had been in the habit of seeing Mr. Outram, when on his periodical travelling visits to a well-known garden in the northern shires. A change of circumstances brought me to London, and I know of no place where a country gardener can feel more lonely at the outset than amid the rush of the great city. One of the first persons I saw at the first Drill Hall meeting I attended was none other than Mr. Outram. I recognised him of course, but was doubtful whether he would remember me. However, I misjudged my man; he knew me at once, and what followed was not much, as things go, though I have always appreciated it. There was a hearty handshake, an inquiry after northern friends, a welcome to London, a few words of good wishes and encouragement, and a bit of advice to be stored up for the future. London felt less lonely after that, and the little episode strengthened my respect for Mr. Outram. It is quite true that we can do good in many ways, often without knowing it.—A YOUNG GARDENER.

I WAS truly sorry to see the announcement of the death of my much-respected old friend Mr. Alfred Outram, on page 517 of the *Journal of*

Horticulture, and I am sure hundreds of gardeners all over the United Kingdom will sympathise with his wife and family in their bereavement.

I knew Mr. Outram when he was a boy, in Messrs. Rollisson's Nursery, Lower Tooting, and have been on the friendliest terms with him ever since. Few men in this country knew plants and their culture better than he did, and it was a pleasure to go round the garden with him when he called, or to meet him at flower shows, where he seemed to know everybody. I have met him at flower shows in England, Scotland, and Wales; and he always took delight when introducing me to his friends, in telling them that I was the first person he ever crooked a flower pot for. In the company of gardeners he was genial and affable, and always had something to say which was worth listening to, whether the subject was gardening, or any of the current topics of the day.

Few nurserymen's representatives were more respected or better received by the gardeners throughout the country than was Mr. Outram, and his early death, in the prime of manhood, will cause sorrow to his many friends in the three kingdoms.—A. PETTIGREW, *Castle Gardens, Cardiff.*

DEATH OF MR. W. M. WELSH.

WE much regret to announce the death of Mr. W. M. Welsh, after a long and painful illness. He was senior partner in the firm of Messrs. Dickson & Co., nurserymen and seedsmen, of Waterloo Place, Edinburgh. Mr. Welsh was a member of the Scottish Arboricultural Society, and a member of the Council of the Royal Caledonian Horticultural Society, and of the Horticultural Association. Mr. Welsh was sixty years of age.

DEATH OF MR. KING.

WE much regret to announce the death on the 10th inst. of Mr. Walter King, head gardener to Jeremiah Colman, Esq., Gatton Park, Reigate, which resulted from an attack of influenza. The deceased was in the prime of life, and was much respected by those under him, and by the persons brought into contact with him. Mr. King leaves a widow and three children.

CAMELLIA BUDS FALLING.

EVERY season many growers are disappointed through the buds of their Camellias falling prematurely, but the cause is often due to faulty culture and mismanagement. At this period of the year severe weather may be expected any day, and fire heat is often employed liberally to insure safety. The temperature is kept even higher during severe weather than previously, when the nights have been mild, and no fire heat employed. The sudden change to a warm dry atmosphere is alone sufficient to result in the plants casting their buds. If frost could merely be excluded, having a temperature of, say, 35°, it would be better for the Camellia, but perhaps not so well for other plants in the same structure; therefore it is often necessary to maintain a temperature at night ranging from 40° to 45°. The plants must then occupy the cool end of the house, and not be stood on an open stage so frequently employed in greenhouses.

Through such stages the warm dry air as it rises extracts the moisture from the soil as well as from the leaves of the plants, with the result that the buds fall directly or a short time afterwards. If the stage is covered with zinc, and 1 or 2 inches of moisture-holding material placed over it, such as ashes, gravel, cocoa-nut fibre refuse, or any similar material, it will be much better for the plants. When strong fire heat is employed, syringe the stems and foliage of the plants just before dark, and again in the morning if they are dry. If this be done, other conditions that will be pointed out being properly observed, the buds will not fall.

Failure not infrequently occurs through attempting to force these plants into bloom by a given date. If the change from the one treatment to the other is sudden, the buds or flowers when half expanded are almost certain to fall prematurely. They will bear forcing, but the change must be gradual. Abundance of moisture must be applied both to the plants and the atmosphere, and in no stage must strong dry heat be maintained about them. More buds probably fall through trying to force the plants into bloom than from any other cause. The best and safest method of growing Camellias for early blooming is to assist them at the commencement of the season to make their growth. One season's early growth, if the plants are kept under glass the whole of the year, will result in flowers by Christmas with cool autumn treatment. By growing them early for several seasons they can be had in bloom two or three months sooner. For the majority of people Christmas is soon enough now that Chrysanthemums can be had in abundance throughout the autumn months.

Directly growth has been made the plants must be gradually hardened to cool, airy, and drier treatment until the buds form at the extremity of the shoots. At this juncture cultivators often place their plants outside for the remainder of the summer. This can be carried out successfully by those who are thoroughly familiar with every detail of the plant's requirements; but my advice is, keep the plants under glass, and the buds will gradually develop, and two or three risks are avoided. When placed outside the time comes for housing the plants, and fatal results often follow. They are removed from a genial position and moist surroundings outside to ungenial air inside; perhaps stood on an open stage in a dry structure. This sudden change is followed by a check to the plants, which ends with the flower buds falling.

Another certain cause of failure is allowing the plants to become dry at the roots. In no stage of growth should the soil become dry; it must not only be kept moist on the top, but through to the base. It is

easy to err in watering by attempting to give just sufficient and no more. This often results in their getting too dry. It is safer to give a little too much than too little. At the same time the soil must not be rendered sour and unsuitable for the roots to work in by saturating it with too much water, or the buds are equally certain to fall.

Overfeeding with strong stimulants in the form of liquid manure will end in the plants throwing their buds. Always supply liquid manure in a weak state, and soot water is beneficial if given clear, not muddy. If less liquid manures were given, and some reliable artificial manures applied to the surface of the soil in small quantities, at intervals of three weeks or a month, fewer failures would follow. Camellias must have fertile soil, or they suffer from exhaustion, and the buds will fall the same as when overfeeding is practised.

Unripened wood is a certain cause of the buds falling. The wood ought to be brown to the tip by the time the buds commence forming, then other cultural requirements being supplied, the plants will be certain to retain them. Wood that is green part of its length instead of brown will retain the buds until a certain period, or until they attain a certain size, when off they come. Plants that make their growth early always set a greater percentage of buds, and also produce finer flowers than those that make their growth late in the season, conditions of health and the food supply being equal in both cases.

Strong insecticides after the buds are formed invariably result in the plants casting them. One strong application might result in the buds falling, while two or three weaker ones could be given without the slightest injury. Plants that are allowed to become covered with insects are liable to lose their buds, however well they may be treated in other respects. If insects exist sponge them off, or brush them from the old wood, using a weak solution of soft soap and water, fir tree or lemon oil. After flowering they may be washed with a solution of petroleum and water, at the rate of 1 oz. of the former to each gallon of water; this will destroy scale if persisted in during the season of growth. These are some of the chief causes of Camellia bud falling, but any check or a combination of causes will bring about the same unsatisfactory results.—W.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—DECEMBER 19TH.

THE exhibition on Tuesday was one of the smallest on record. There were scarcely any exhibits for the examination of the Floral Committee, while Orchids, too, were very few in numbers. Fruit—particularly Apples—was good, but vegetables were conspicuous by their absence.

FRUIT COMMITTEE.—Present: J. Cheal, Esq. (in the chair); and the Rev. W. Wilks, W. Poupart, M. Gleeson, A. F. Barron, J. H. Veitch, A. Dean, S. Mortimer, W. Bates, R. Fife, J. Willard, F. Q. Lane, and J. Hudson.

Messrs. J. Cheal & Sons, Crawley, staged about eighty dishes of Apples, which formed the chief attraction of the exhibition. The whole were in good condition and well coloured. The best varieties were Schoolmaster, The Queen, Golden Noble, Adams' Pearmain, Peasgood's Nonesuch, Lord Derby, Parquet, in capital form; Bismarck, Emperor Alexander, Lane's Prince Albert, Wellington, Beauty of Kent, Hoary Morning, Newton Wonder, a grand dish; Chelmsford Wonder, Rymer, Mabbot's Pearmain, and Atalanta (silver-gilt Banksian medal).

A collection of Potatoes was staged by Mr. J. Butler, which included Syon House, Triumph, Windsor Castle, Sutton's Seedling, Ideal, and Early Puritan. Mr. J. Butler, gardener to the Earl of Ancaster, Normanton Gardens, Stamford, showed a collection of Apples in sixty-three varieties, forming a good display. The chief varieties were Mère de Ménage, Yorkshire Greening, Peasgood's Nonesuch, Lord Derby, Beauty of Kent, Cox's Orange Pippin, Barnack Beauty, Wellington, and Newton Wonder (silver Banksian medal).

Mr. W. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, staged a collection of Grapes, which included bunches of Lady Downe's Seedling, Gros Guillaume, Mrs. Pince, Muscat of Alexandria, Gros Colman, Mrs. Pearson, a grand bunch of good colour; Black Alicante, and Trebbiano (silver-gilt Knightian medal). Mr. T. Edington, gardener to Lord Ducie, exhibited a dish of Diospyros. Mr. C. Ross, gardener to Captain Carstairs, Welford Park, Newbury, three seedling Apples and a dish of the Old Northern Greening.

FLORAL COMMITTEE.—Present: G. Gordon, Esq. (in the chair); and Messrs. R. Dean, J. F. McLeod, C. R. Fielder, H. J. Cutbush, E. Beckett, E. H. Jenkins, D. B. Crane, C. H. Drury, H. J. Jones, H. Turner, E. Mawley, J. Fraser (Kew), and E. T. Cook.

Chrysanthemums were represented by a group from Messrs. W. Wells and Co., Ltd., Earlswood, Redhill. The chief attraction was a group of white named Letrier, in pots, which were well flowered, a broad petalled variety of good colour; other varieties were Bouquetière, Mrs. C. Bown, a white that is finding favour with the market growers; Golden Good Gracious, Mermaid, Alice Carter, King of Plumes, Mrs. W. Butters, Sunset, Sam Carwell, and Cheveux d'Or, a really good group for the season (silver Banksian medal).

A box of bright hybrid Rhododendrons came from Messrs. Jas. Veitch and Sons, Chelsea, which were particularly attractive at this season. The best varieties were R. Malayanum, Little Beauty, a rosy red; Exquisite, a bright yellow; President, a buff fawn; Apollo, orange red; Minerva, a large flower, pale buff; Numa, a warm red; and Cloth of Gold, a pale yellow of good substance.

ORCHID COMMITTEE.—Present: H. Little, Esq. (in the chair); and Messrs. Jas. O'Brien, A. H. Smee, R. B. White, H. J. Chapman, W. H. Young, F. J. Howe, H. F. Pitt, J. Jacques, E. Hill, W. Cobb, J. Colman, de B. Crawshaw, T. W. Bond, and J. T. Gabriel.

Mr. F. J. Thorne, gardener to Major J. Joyce, Sunningdale Park, Ascot, contributed three plants of Orchids, which comprised *Dendrobium atro-violetaceum*, *Johnsonia*, and *spectabile*. The latter created the greatest interest, as it was the first time it had been exhibited in flower. The scape carried four flowers. Mons. Jules Hye, Leysen, contributed *Cypripedium* Mons. Jules Hye, a hybrid from C. *Spicerianum* and C. *tonsum*. Messrs. Charlesworth & Co., Bradford, showed *Cypripedium* Lord Roberts, which is a cross from C. *Charlesworth* and C. *Creon*. The same firm sent also a plant of C. *insigne* Sander & Sons carrying six magnificent flowers.

Cypripedium Euryades splendens, from Messrs. J. Veitch & Sons, attracted much attention, as did *Laelio-Cattleya Wellsiana ignescens*, which is from *Laelia purpurata* and *Cattleya Trianae*. Messrs. F. Sander and Co. showed from St. Albans *Zygocloax Amesiana*, while Mr. G. W. Law Schofield staged *Cypripedium conco-callosum*. Mr. C. Goodhart, Beckenham, Kent, sent *Cypripedium Antigone*, Padbury's variety; while Messrs. H. Low & Co. showed C. Wm. Lloyd var. *giganteum*, and C. Lord Roberts. Mr. J. Young, Liverpool, staged a few blooms of *Cypripedium*, and Mr. J. T. Bennett-Poë *Laelia anceps* and a splendid spike of *Oncidium tigrinum*.

Mr. W. M. Appleton, Weston-super-Mare, exhibited *Laelio-Cattleya Golden Queen*, *Cypripedium Oddity*, curious in the fact that each flower produced three pouches, produced with other Orchids of interest (silver Banksian medal).

CERTIFICATES AND AWARDS OF MERIT.

Apple Stainway Seedling (T. H. Kettle).—A conical fruit, pale yellow, with a half-closed eye and a short stalk (award of merit).

Cypripedium conco-callosum (G. W. Law Schofield).—A chastely beautiful hybrid. The petals and dorsal sepal are cream with purple spots and suffusion. The pouch is pale green with purple flushing (award of merit).

Cattleya Elatior (T. W. Bond).—This is a cross between C. *Schilleriana* and C. *Mossiae Reineckiana*. The sepals and petals are white delicately suffused with purple, and the lip rose-purple, lighter at the front, and with yellow side lobes (award of merit).

Cypripedium Euryades splendens (J. Veitch & Sons).—A superb variety. The grand dorsal sepal is white with a green suffusion at the base, and rose markings and spots, and a white margin (first-class certificate).

Cypripedium Lord Roberts (Charlesworth & Co.).—This is a hybrid from C. *Charlesworthi* and C. *Creon*. The very broad dorsal sepal is rosy purple, paling to white at the upper part. The sepals are of a similar colour suffused with brown, and the pouch is of the same colour (first-class certificate).

Dendrobium spectabile (F. J. Thorne).—The twisted sepals and petals are cream with crimson brown lines and spots. The long peculiar lip is very light cream with madder brown markings (first-class certificate).

Laelio-Cattleya Wellsiana ignescens (J. Veitch & Sons).—This is a glorified form of the type (award of merit).

Zygocloax Amesiana (F. Sander & Co.).—A bigeneric hybrid of much beauty. The sepals and petals are green with profuse brown markings. The lip is white with purple lines and spots (award of merit).

A NEW ZEALAND NARCISSUS SHOW.

SOME of our New Zealand horticultural societies have of late years adopted the plan of holding special Narcissus shows, and judging from the increasing popularity in which these are held they have come to stay. The Wellington Society held its third annual display on the 14th September, 1898, and although several of the amateur growers were absent it was a decided success.

A silver medal was offered for the largest collection of named varieties of Narcissus, and this was the only prize, as all other exhibits were non-competitive. Two of our local nurserymen competed for the medal, and excellent displays were made in both cases. The winner staged 170 varieties, a feat of which many English growers would no doubt be proud. This included many of the newer and rarer varieties, and also a number of pots, showing how the various sorts do for that purpose. The second stand, though not containing so many varieties by about forty, was a fine display, charmingly arranged.

Turning to the varieties—of course such universal favourites as *Horsefieldi*, *Emperor*, *Sir Watkin*, *Empress*, and the doubles *albus plenus aurantius*, and *sulphureus plenus* (Eggs and Bacon and Codlins and Cream)—were there in quantity, great masses in fact, and quality was not wanting either, for our climate suits these remarkably well. It is with the smaller flowered class, such as *triandrus* and *cyclamineus*, that the trouble is found in acclimatising here. In the prize stand I noticed such beautiful and interesting varieties as *capax plenus*, *Rev. J. M. Berkeley*, *Mrs. and Mr. J. B. M. Camm*, *triandrus albus* (with its chaste little flowers), *Gloria Mundi*, *Madame de Graaffe*, and *Karoline Kroons*, and it speaks volumes for the climate that all these flower well in the open ground.

In the non-competitive exhibits were some fine *Primulas* (including that excellent introduction *pyramidalis*), *Freesias*, *Cinerarias*, *Tulips*, and *Hyacinths*, and a well flowered plant of *Clerodendron Thompsoni*. Altogether it was an excellent display, and visitors expressed themselves as surprised and delighted at the improvements made of late years in this class of spring flowers.—J. G.

SCIADOPITYS VERTICILLATA.

THIS Conifer, though 'closely allied to the Sequoias, does not, to the casual observer, appear to have much in common with them, having a far different appearance in its general characters, though the catkins and cones of both much resemble each other. Like many others of the common names applied to various Conifers, the appellation of the Umbrella Pine given to this plant is misleading, as it is not a Pine by any means, being further removed from the true Pines than even the Spruces are.

A native of Japan, it is hardy in most parts of England, and is one of the most distinct and handsome of Conifers, needing only to be seen to be appreciated. It was first introduced to this country in 1861, though as early as 1784 it had been described by Thunberg from imperfect material as probably a species of Yew. It is found wild only in a very limited area, and maybe will be represented only in gardens in the future; but it is a plant which readily adapts itself to cultivation, so that it is hardly likely to be entirely lost.

In its native home it forms a tall, conical, or pyramidal tree about 100 feet high when fully developed; but in this country the largest specimens are at present probably not more than 25 or 30 feet in height. The leaves are arranged in whorls on the branches about twenty in each, are 4 or 5 inches long by less than a quarter of an inch wide, thick and leathery, and obtuse or slightly cleft at the tips. When first expanded they are of a light green hue, but turn darker and more shining with age. The under side of the leaf has a furrow down the centre of it, which is of a yellowish tint.

The male catkins are terminal, chiefly on the secondary branches, and appear as an aggregation of twenty to thirty small rounded heads. These first show in the late summer, but do not expand until the following spring, when the quantity of pollen shed by them is surprising.

The cones are small, rounded, and spineless, and from present appearances will be freely produced under cultivation in this country. If they show on young trees, as they often do, it is best to cut them off while green, as their presence only tends to weaken the plant.—C.

NATIONAL AURICULA AND PRIMULA

SOCIETY.—SOUTHERN SECTION.

THE annual general meeting of the above Society took place on Wednesday, December 13th, in the Horticultural Club Room, Hotel Windsor, Victoria Street. The statement of the Hon. Sec. disclosed a most satisfactory state of affairs, sixteen new members having joined during the year, as against the loss of six by death and otherwise. Amount received in subscriptions during the year, £75 7s. 6d.; amount paid in prize money at the late exhibition, held in conjunction with the Royal Horticultural Society at the Drill Hall, Westminster, in April last, £56 17s. Balance carried forward to 1900, £20 18s. 9d.

It was decided to hold the Exhibition for 1900 on Tuesday, April 24th, at the Drill Hall, Westminster, under the auspices of the Royal Horticultural Society, a liberal prize list being offered for Show Auriculas, Alpine Auriculas, Primulas, Polyanthus, and Primroses. The Hon. Sec. is Mr. T. E. Henwood, 16, Hamilton Road, Reading.

NATIONAL CARNATION AND PICOTEE SOCIETY.

SOUTHERN SECTION.

THE annual general meeting of the above Society took place on Wednesday, December 13th, in the Horticultural Club Room, Hotel Windsor, Victoria Street, the President of the Society (Martin R. Smith, Esq.) and a large muster of members being present. The Hon. Sec. and Treasurer reported a very satisfactory state of affairs. Forty-five new members have joined the Society during the year, a number considerably in excess of those lost to the Society by death and otherwise. Subscriptions received during the year amounted to £301 3s. 6d. Prize money paid at the late exhibition of the Society held at the Crystal Palace in July last, £228 0s. 6d., in addition to three silver cups presented by the President. A balance of £229 11s. 10d. was carried forward to the year 1900. The Society now numbers nearly 400 members.

It was decided to hold the annual exhibition for 1900 at the Crystal Palace in July next. Several new classes were added to the schedule, and it was also decided to offer a silver cup to the exhibitor gaining most points in the undressed classes as a further encouragement to the amateur members. The sum now offered in prize money amounts to close upon £300 and a silver cup, in addition to the three silver cups presented by the President. It was also decided to publish in the forthcoming report a list of flowers that can be shown as yellow-ground Picotees, and another list for yellow-ground Fancies, much doubt having hitherto been felt as to which class some of the varieties should be shown in.

A packet of choice Carnation seed is sent to all subscribers of 10s per annum and upwards. This seed is saved from the unique collection of the President, and generously presented by him to the Society. The Hon. Sec. of the Society is Mr. T. E. Henwood, 16, Hamilton Road, Reading.



HARDY FRUIT GARDEN.

Cleansing Fruit Trees.—Attention should be given, when the pruning of trees is completed, to the cleansing of the stems and branches. Moss and lichen infesting the branches, colonies of scale and American blight, red spider and eggs of insects are all cleared away by judicious and persistent applications of effective insecticides.

Moss and Lichen.—Mossy and lichenous growths on fruit trees are amongst the greatest evils to which hardy fruit are subject, because harbour is provided for other enemies of the trees. In ridding the trees of these incrustations a preliminary scraping may first of all be practised, employing a piece of hoop iron, but not cutting the tissues of the wood. Having removed the thick outer covering, which is best done when thoroughly soaked with wet, brush the affected parts with hot lime, soot, and cow manure mixed in soapy water. Brine is also an excellent cleanser, as it, like lime in an active state, destroys the organic growth on the stems and branches. Lime and soot must be well brushed over the affected parts; the brine may be applied with a scrubbing brush, and in a few weeks the destroyed growth will fall away, leaving the bark comparatively clean. In order to make the stems perfectly clean follow with a cleansing mixture of softsoap and water, or a preparation of Gishurst compound. Half a pound of either, thoroughly dissolved in a gallon of hot water, forms an admirable dressing.

Scale.—The scale insect infests many trees and bushes, including Pears, Plums, Cherries, Gooseberries, and Currants. To destroy this insect mix equal parts of lime and sulphur into a paste, and add half the quantity of soot. To this add a pound of softsoap in a gallon of water and a wineglassful of petroleum or methylated spirits of wine, mixing the whole into an emulsion. Paint this on the scale-infested parts, and the insects will speedily be destroyed and fall off. Another excellent destroyer of scale insects is the now well-known caustic soda and potash solution, for which we are indebted to Mr. L. Costes of California. The method of preparing this is to take one pound each of caustic soda (Greenbank's 98 per cent.) and crude commercial potash, also known as pearl ash. Place the chemicals in separate buckets, and pour on boiling water gently until dissolved. After this mix them together, and add ten gallons of water. Hot water is best, as the solution should be used warm; and it must be sprayed on the trees, not syringed on. The latter method of distribution is wasteful, and as the mixture is valuable the most should be made of it.

American Blight.—Insecticides which are sprayed on the trees are not effectual for this pest, as it is one which locates itself in cracks and crevices of the bark, and is confined to Apple trees exclusively. It is also the most prevalent on the trunks and larger branches, though in bad cases the younger parts of the trees are likewise affected. Prepare a mixture of softsoap and hot water, using half a pound of soap to a gallon of water, adding a quart of petroleum. Well mix and churn this to a soapy emulsion, and with a hair-worn painter's brush work it thoroughly into the infested parts. Before applying this solution all useless wood should be pruned out. The upper parts of the trees, which are not so easily treated by brushing, may be cleansed by spraying on the caustic soda and potash solution. At the present time American blight is not so active as in summer, when the white, fluffy, cottony substance which surrounds the insects is visible. This substance, probably laden with eggs and embryonic insects, is then readily carried about by the wind. In order to prevent this occurring, the precaution should be taken of destroying it at the time by brushing spirits of wine directly on to it.

Red Spider.—These small but destructive insects may be readily extirpated now by syringing the trees which are affected, chiefly Apples, Cherries, Plums and Gooseberries, with an emulsion of softsoap and sulphur, or spraying with the soda and potash solution. The syringing and spraying must be done from all sides, so as to reach every part.

Preventing the Gooseberry Caterpillar.—Where Gooseberry bushes were troubled with the caterpillar last summer, the larvæ from them will be buried in the soil beneath the bushes. If the soil is scraped away for 2 or 3 inches immediately underneath the branches and is buried in a hole between the bushes the larvæ will not be able to emerge and do damage again. Some fresh, rich soil should be spread over the roots in place of that taken out. The bushes ought also to be well dusted with fine quicklime when wet with dew or rain; indeed annual dustings of quicklime to both Gooseberry and Currant trees are beneficial, not only as a cleanser of the wood, but as a protection to the buds from the attacks of birds.

Cleansing Apricots, Peaches and Nectarines.—If the soda and potash solution is used to dress these trees more water should be added, and the application given while the trees are in a quite dormant condition or injury to the buds may result. The solution must be sprayed on the trees in mild weather. Painting the wood and shoots with a prepared wash which adheres to the bark is an excellent method. The mixture for this purpose may consist of 4 ozs. of softsoap to the gallon of water, mixing a

handful of sulphur into a paste, adding also some soot and a little clay. If prepared of the consistency of thin paint and applied with a brush, mildew will be prevented appearing, red spider and other insects destroyed. The brush must be used on the young woods upwards, so as not to harm the buds.

FRUIT FORCING.

Peaches and Nectarines.—*Early Forced Houses.*—When the buds of the trees started at the beginning of the present month are swelling freely and showing colour syringing should cease, as the water often causes the flowers to damp. Maintain, however, a genial condition of the atmosphere by sprinkling the floor and border with water in the morning and afternoon of fine days. Provide a little ventilation constantly at the top of the house. Raise the heat early in the day to 50°, and not exceeding 55° from fire heat, and admit a little air, yet not so as to lower the temperature below 50°. Increase the ventilation with the sun heat, having it full at 65°, and gradually reduce it with the declining temperature, closing (subject to a small amount of air being left on) for the day at 55°. On cold nights the minimum temperature should be maintained at 40° to 45°; between the latter and 50° is ample on mild nights. Nothing is gained (but the prospects of a crop may be lost) by undue haste until the days have turned, and there is an increase of light and length of days. Nevertheless, aim at steady progress, allowing the trees abundance of air and a genial warmth by day, with rest at night.

Second Early House.—If the house has been open to receive the autumn rains the border will be thoroughly moist. If, on the other hand, the lights have not been removed, there may be need for repeated waterings to bring the soil into a moist, but not sodden, condition. Judicious applications of liquid manure to weakly trees benefit them immensely, and where the drainage is efficient there is little danger of the soil getting sodden by the rainfall or applications of water. Fire heat will only be necessary at the commencement to prevent the temperature falling below freezing point at night and to maintain 50° in the daytime, admitting air freely at and above that heat.

Succession Houses.—The cleansing of the houses and trees should be pushed forward, and brought to a close as soon as possible. Where the trees have been infested with brown aphid, red spider, or scale it is advisable to syringe the whole house with hot water at a temperature of 140°, which will soften the dirt and destroy all the pests it reaches. The woodwork should then be thoroughly cleansed with soap and water, using a brush, and the glass inside and outside with clear water. The trees may be syringed again with the hot water and dressed with petroleum emulsion, made by dissolving 1½ lb. of soft soap in a gallon of water by boiling, and on removing from the fire add half a pint of paraffin oil, and stir briskly, so as to thoroughly amalgamate the oil with the soapy solution. For use, the emulsion should be diluted with five times its bulk of water, applying with a brush at a temperature of 130° to 140°, taking care not to dislocate the buds. Prior to this the trees will have been pruned, and after dressing the branches can be re-arranged and the growths tied to the trellis. The walls should be limewashed. Remove the loose surface soil, add fresh lumpy loam, with a fourth of well-decomposed manure, and supply a handful of some approved fertiliser per square yard. The rain or watering will work the ingredients into the soil.

If the roof-lights are fixed ventilation should be given fully, the trees being afforded rest as completely as possible, care being taken not to allow them to become dry at the roots. If the roof-lights are movable, and have been removed, they may remain off until the time arrives for starting the trees or until the buds commence swelling, when the lights must of necessity be replaced to insure the safety of the buds and blossoms.

Unheated Houses.—These structures are often made receptacles for other plants. The better plan is to remove the roof-lights and let the trees and soil have the benefit of the exposure, which insures complete rest, thorough moistening of the border, and retarding of the blossom, which is of considerable importance. The trees will not take the least harm, no matter how severe the weather may be, provided the wood be well ripened; but if there is any doubt about that the lights are best retained over the trees, as frost acting on such whilst wet may cause their destruction. In the latter case, and also when the lights are removed, pruning may be deferred until the buds commence swelling.



THE WEATHER.

We are now nearing the shortest day, and the weather is seasonable. The ground is covered several inches deep with snow, and a keen frost prevails. The lowest temperature registered on an exposed thermometer, 4 feet from the ground, has been 21°. This is more frost than we have had during the past two winters, but it is only reasonable to expect a change from the extremely open weather experienced then. Fortunately the snow will protect all dwarf vegetation should the frost continue.

What will be the effect of the sudden change in the weather on the bees? If they have been protected as advised in previous notes

they will be perfectly safe, and no harm will happen to them. As long as the frost continues it will be an advantage to allow the snow to remain on the roofs of the hives, as there is great warmth in a thick covering. Directly it begins to thaw the snow should be removed, as there is nothing more penetrating than melting snow. If there is a decayed spot or a minute crack in the roof it will find it out.

The snow should not be allowed to remain on the alighting board, as it will prevent a free circulation of air, and also attract the bees when the sun is shining during the middle of the day. It is almost incredible the number of bees that may be lost through a little carelessness in this respect. It is not so apparent at this season as during the early days of spring, when the sun is gaining power daily. The bees are tempted to leave their hive when the sun is shining directly on them, and the ground is covered with glistening snow. They take a flight, and many of them alight on the snow, which is certain death, as they become chilled, and, being unable to rise, die in the course of a few minutes.

It is no exaggeration to say we have seen thousands lying dead on the snow within a radius of 20 yards of some hives that had been neglected. All that is necessary to do at midwinter is to clear the snow away from the entrance, and if the hive is not fastened to its stand turn it round so that the sun does not shine directly on the alighting board. When the days begin to lengthen, and the sun is more powerful, place a piece of wood or slate across the entrance in such a manner as to obstruct the sun, but not the air.

USEFUL HINTS.

As mentioned above, bees that have been properly treated and are housed in warm, dry hives will be in good condition, and perfectly safe whatever the weather may be. There are, however, many bee-keepers who, for various reasons, fail to do what is necessary for their bees' welfare at the right time. It may be they were left to take their chance after robbing them of their stores. Feeding may have been attempted when it was too late in the season for the bees to carry down the food offered to them. Again, in the matter of packing up for winter, how often is this left until it is too late to be of any benefit to the bees? Where such mistakes have been made an attempt should be made to remedy them at once.

If a doubt exists at regards shortness of stores, it is not advisable to remove the covering or attempt to examine the combs at this season, as with a little practice a bee-keeper may form a very correct opinion as to the amount of stores in the hive by simply lifting the back of the hive with one hand. If stores are short and feeding must be done, a cake of soft candy placed directly over the cluster will have the desired effect. The quilt must not be removed, as when it is placed in position in the autumn after the surplus has been removed, the bees fill up all crevices with propolis; this makes all airtight. We prefer to cut a piece out of quilt and carpet, or whatever is placed over the frames, just large enough to allow the box of candy to rest on the top of the frames. They should be covered up warm again to prevent an escape of heat from the hive.—AN ENGLISH BEE-KEEPER.

FLOWERS FOR BEES.

In reply to your esteemed correspondent, Mr. S. Arnott, I may say that I have not observed dead bees in the flowers of *Colchicum autumnale* more than is usually to be found in other flowers at that season. It is quite a common incident to find dead bees in the autumn not only in flowers, but also on the foliage of the various vegetable crops in the garden. This arises from two causes—old age and the coldness of the season. It may be interesting to note the fact that *Colchicum autumnale* grows freely in a wild state in the neighbourhood of my apiary, and that steps have been taken of late to eradicate it from the pastures as it is poisonous to the cattle.—AN ENGLISH BEE-KEEPER.

WHILE quite agreeing with "An English Bee-keeper's" list of flowers on page 485, may I be allowed to supplement his list with a few remarks? There is one plant that I set special value upon in spring, and that is the Flowering Currant or Ribes. This is not only very ornamental, but the bees delight in it. I have a divisional hedge I raised specially for my bees. Borage also I do not see mentioned. This I grow in succession, and it affords food until the severe frosts cut it down. Marjoram is useful also as a herb and as food for bees. Then, as a late flowering ornamental shrub, the Strawberry Arbutus comes in useful, and I have never known it so beautiful as this past autumn, when it was so well fruited with its yellow and crimson fruits; but, alas! the black-birds cleared off every berry last week. How are these shrubs usually raised?

Now comes in the Laurustinus, which affords food from its waxy flowers all the winter on mild days when the bees can work. Lately I made special inquiries respecting the source of pollen-carrying in some cases of bees I drove and transferred very late this season, and was informed it was from single Dahlias, before the frost cut them down, which were extensively grown by a gentleman in the neighbourhood.

It appears to me a great pity that honey is not shown at Chrysanthemum and fruit shows, and also at the cattle shows, where poultry,

eggs, butter, and other products occupy positions. I hope societies and secretaries will think it over another season.—J. HIAM, *Astwood Bank*.

"AN English Bee-keeper" gives an excellent selection of plants and flowers suitable for bees during scarcity. No one in a garden can plant sufficient for bees storing a surplus, unless the hives are situated near large orchards or some of our seed farms. One plant not enumerated by "A. E. B.-K.," the white *Centaurea montana*, is my pet bee plant. A row of this *Centaurea* backed by the blue *cyannus*, apart from its beauty during the flowering period, is sure to be visited by all kinds of insects, and especially bees. I have counted as many as ten bees in a single flower, and it blooms quite a long period, from the middle of April to June, and when ragged in July the plants can be cut over, when it will send up fresh growths, which will flower until cut down by frost.—A. D.'S. K.

FONDNESS OF BEES FOR SUMACH.

It is often recommended that Linden trees be set out that bees may feast from the flowers; but has it ever been observed by others how uncommonly fond of Sumach these insects are? Let a piece of bark be taken off a *Rhus typhina* in early summer while the sap is active, and at once the whole surface of exposed wood becomes so fully covered with bees that nothing whatever of the scar can be seen. The visits of the insects are kept up until quite late in summer. I have not observed whether the flowers of this species are visited or not; but it is a sight to see them on those of the *R. copallina*, which are in display in August. When the heads of flowers are fully open they are so full of bees that hardly is there room for a new comer to alight.—J. M. (in "*Meehan's Monthly*.")



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 12, *Mitre Court Chambers, Fleet Street*. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Hole in Lime Tree (G. R. A.).—The wood will no doubt be infested by wood-fungi, not parasitic, but saprophytic, and causing, in time, the stem to become hollow. We have found the plan, first propounded, we believe, by the Rev M. J. Berkeley, of stopping the hole with stones and running it level with the bark with cement in such manner as to allow the water to run down the trunk to answer well, the bark of the tree growing over the cement. The process is to remove as much of the decayed wood as possible, then syringe the surfaces inside the hole with a solution of sulphate of copper, 1 oz. to 1½ gallon of water, or paint with Stockholm tar formed to the consistency of paint by the addition of one-fourth petroleum. A layer of stones is then placed in the hole and run level with cement (Portland) one part, and two parts sharp sand, formed into a composition with water soft enough to run and fill the interstices between the stones. More stones are added, run with cement, and so on until the hole is filled level with the bark, when as soon as sufficiently set the surface is smoothed over with a trowel and a surfacing of neat cement mortar, and finished in such manner that the rain cannot possibly lodge, but must run down the trunk. In case of a flat hole it is necessary to raise the cement in the centre so as to throw off the rain and thus prevent water lodging. A very good plan is to cover the hole over the cement with the usual pigment of clay and cow manure, as in grafting, forming a sort of rounded cap in order to encourage the bark to grow over the wound, renewing this from time to time.

Camellia Buds Falling (Young Gardener).—It is impossible from the meagre details that you furnish to assign a definite cause of the buds dropping from the *Camellia* plants in your previous situation. We can quite understand your anxiety to guard against it in your new charge, and would advise you to read very carefully the remarks by "W." on page 552, which we hope will prove of service to you.

Are the Fruits of *Physalis Franchetti* Edible? (J. C. S.).—The berries are no doubt edible in the sense of the Winter Cherry (*Physalis Alkekengi*), which have an acidulous taste, slightly bitter, but not unpleasant flavour. In Germany, Switzerland, and Spain they are served at the table as dessert, with other fruits. The Cape Gooseberry (*P. peruviana edulis* syn. *pubescens*) has yellow edible fruit, which is excellent when made into confections.

Propagating Wild Guelder Rose (Derby).—*Viburnum opulus* may be propagated by layering, or by cuttings of the half-ripened shoots, inserted in sandy soil, under hand-lights, or in a somewhat shady position. It is commonly raised from layers in nurseries, stools being kept for the purpose. If you cut down a plant close to the ground it will push growths, which in the following autumn will be available for layering. Failing this the berries may be collected, stratified in sand outdoors, turned frequently, and in the following autumn be sown. The plants appear the following summer. Layers usually make the best plants.

Procuring Bulbs of Wild Hyacinths (Bluebell).—It is quite possible to get wild *Hyacinth* (*Scilla nutans*) bulbs through some person who has charge of copses and woods, where they grow in quantity, sometimes over large areas of ground, and are commonly called "Bluebells" or "Harebells." The proper time to procure the bulbs is as soon as the leaves are down in the summer, or between that time and early in autumn, before the bulbs have begun to push fresh roots. We should apply to some nurseryman advertising in our columns, and ask for an estimate for large size bulbs by the thousand, or an advertisement stating requirements would no doubt bring the desired offers.

Plants for Back Wall of Lean-to Vinery (Rockery).—The best evergreen plants are *Camellias*, planted out and the growths trained to a trellis. Good varieties are—*Alba plena*, white; *Beali*, crimson; *Chandleri elegans*, light rose; *C. M. Hovey*, scarlet crimson; *conspicua*, bright scarlet, semi-double, very fine; *Donkelaari*, crimson mottled with white; *Eximia*, deep red; *fimbriata*, white; *Lavinia Maggi*, white with crimson blotches; *Mathotiana*, crimson; *Mathotiana alba*, white; *Monarch*, scarlet; *Queen of Beauties*, bluish veined with pink; and *reticulata*, bright rose. *Rhynchospermum jasminoides*, white, sweet-scented flowers, does fairly well; also *Luculia gratissima*, rosy pink, sweet scented; but the latter is very subject to foster insect pests.

Keeping Grafts of Muscat Vine (T. R. R.).—The best way to keep the cuttings or scions is to place them with their lower ends in moist soil or sand in a flower pot, and keep in a cool house shaded from the sun. In such a position the buds will not start until April. If not wanted for grafting until later, the cuttings should be laid in soil behind a north wall, where the eyes will keep fresh until May or June, and can be used at any time when required.

Grafting Lady Downe's with Muscat (Idem).—The best time for grafting Vines is when the first few leaves on the stock—in your case Lady Downe's—are fully expanded, as the first flush of sap has then passed, and the tissues are in a growing condition. The scions should be slightly on the move, and if they are in a proper state the buds will be a little excited, or beginning to swell. If not started, the scions must be placed in heat to effect this, and the scion when cut through appear a little moist on the surface of the wound. With the stock and scion in condition the operation may be performed with every prospect of success, always leaving a growing shoot on the stock above the graft until the union has been effected. A correspondent in the *Journal of Horticulture*, vol. xxiv., p. 77 (1873), described a certain mode of grafting as follows:—"Select a stout, short-jointed, well-matured lateral shoot for a scion, with bold buds. Take a slice off the graft near the middle, say 5 inches long, leaving 4 inches below it for inserting into a bottle, and 3 inches, with a bud above, to grow and form the future Vine. Take a similar slice off the stock, fit the two together, and bandage around with tape. The slicing should be done quickly, cleanly, and fearlessly, not merely removing the bark, but shaving pretty well into the wood. After tying, no moss or clay or any other covering is required; suspend an ordinary wine bottle, secured, with the end of the graft inside, and keep this filled with rain water, placing a little charcoal in the water to keep it pure. When the grafts have grown 6 feet, not before, remove the bottles and the ligatures, and the operation is completed. This mode of grafting is performed about the same time as the other—after the Vines have commenced to grow. If carefully executed few failures will occur, and if the Vines are strong canes or rods from 18 to 20 feet will be produced the same season, healthy Vines bearing a crop of fruit at the same time."

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or

flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Desert Pears cannot be named in a hard green state.* The practice of pinning numbers to the eyes of the fruits tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (M. M.).—1, New Northern Greening; 2, Roundway Magnum Bonum; 3, d'Arcy Spice; 4, Braddick's Nonpareil; 5, Cobham, a fine form of the well known Blenheim Pippin; 6, unknown and worthless. (W. D.).—1, Beauty of Bath; 2, Alfriston; 3, Bramley's Seedling; 4, Dr. Harvey; 5, Newton Wonder; 6, Waltham Abbey Seedling. (B. J. C.).—1, Court Pendu Plat; 2, Flower of Kent.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (S. L.).—*Dendrobium atro-violaceum*. (N. W. T.).—1, *Pteris longifolia*; 2, *Davallia Mooreana*; 3, *Gymnogramma schizophylla*; 4, *Woodwardia radicans*. (F. H.).—1 and 3 forms of *Cattleya labiata*; 2, the typical *Cypripedium insigne*; 4, *Eucharis grandiflora*; 5, *Adiantum Pacottii*.

CHANGE OF ADDRESS.—Mr. J. Gilbert, The Gardens, Merrow Rectory, Guildford, writes:—"The Rev. L. R. Flood having resigned his living here after fifteen years' service through ill-health, his address after the end of January, 1900, will be Oakhanger, Godalming, Surrey.

COVENT GARDEN MARKET.—DECEMBER 20TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

TRADE very quiet.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3	0 to 7	Lemons, case	4	0 to 5
" Canadian, barrel	10	0 15	Melons	0	6 1 6
" Nova Scotian, barrel	10	0 17	Oranges, per case	5	0 0 15
Cobnuts, per 100 lb.	60	0 70	" Tangerine, box	6	0 1 9
Grapes, black	0	6 8	Pears, Californian, case	6	0 9 0
" Muscat	1	0 5	Pines, St. Michael's, each	1	0 6 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	8	0 to 4	Leeks, bunch	0	8 to 0
Asparagus, green, bundle	5	0 6	Lettuce, doz.	1	6 2
" giant, bundle	15	0 20	Mushrooms, lb.	1	8 1 6
Beans, Jersey, per lb.	1	0 1 6	Mustard and Cress, punnet	0	2 0
" French Kidney, lb.	0	2 0 3	Onions, bag, about 1 cwt.	4	0 4 6
" Maudslayi, basket	8	0 4	Parley, doz. bunches	2	0 4 6
Beet, Red, doz.	0	6 0	Potatoes, cwt.	2	0 5 0
Cabbages, per tally	7	0 0	" Tenerife, cwt.	18	0 28
Carrots, per doz.	2	0 8	Seakale, doz. baskets	18	0 21
Cauliflowers, doz.	8	0 4	Shallots, lb.	0	8 0
Celery, per bundle	1	0 1 3	Spinach, per bushel	5	0 7 0
Cucumbers, doz.	4	0 6	Tomatoes, per doz. lbs.	2	0 5 0
Endive, doz.	0	9 1 8	Turnips, bunch	0	8 6 4
Herbs, bunch	0	2 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bunches	2	6 to 5	Maidenhair Fern, doz. bnch	6	0 to 8
Arums	12	0 18	Marguerites, doz. bnchs.	3	0 4
Asparagus, Fern, bunch	2	0 2 6	" Yellow, doz. bnchs.	6	0 9
Carnations, 12 blooms	2	6 3 6	Mimosas, per bunch	2	6 8 6
Cattleyas, per doz.	12	0 24	Mignonette, doz. bunches	6	0 8
Christmas Roses, doz.	1	6 2 6	Narcissus, white, doz. bun.	2	6 6
Chrysanthemums, white			" Yellow, doz. bunches	3	0 5
doz. blooms	6	0 9	" double, doz. bunches	2	6 4 6
" yellow doz. blooms	5	0 8	Odontoglossums	5	0 7 6
" bunches var.	0	6 1 6	Pelargoniums, doz. bnchs	8	0 12
Eucharis, doz.	6	0 8	Poinsettias, doz.	15	0 24
Gardenias, doz.	6	0 8	Roses (indoor), doz.	6	0 8
Geranium, scarlet, doz.			" Red, doz.	6	0 8
bnchs.	6	0 12	" Safrano, packet	2	0 3
Lilac, white, bundle	6	0 8	" Tea, white, doz.	3	6 6
Lilium Harrisii, 12 blooms	12	0 18	" Yellow, doz. (Perles)	5	0 7 6
" lancifolium album	8	6 4 6	Smilax, bunch	5	0 7 6
" rubrum	8	6 4 6	Violets, Parma, bunch	6	0 8
" longiflorum, 12 blooms	8	0 12	" dark, French, doz.	2	6 4
Lily of the Valley, 12 bun.	18	0 24	" " English, doz.	3	6 4 6

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitis, var., doz.	6	0 to 8 0	Ferns, small, 100	4	0 to 8 0
Arums, per doz.	18	0 24	Ficus elastica, each	1	6 7 6
Aspidistra, doz.	18	0 8 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen	15	0 20	Lily of Valley, per pot	1	6 2 6
Chrysanthemums, per doz.	6	0 12	Hyacinths, Roman, per pot	1	6 3 6
Orotans, doz.	18	0 80	Lycopodiums, doz.	3	0 6 0
Dracena, var., doz.	12	0 80	Marguerite Daisy, doz.	10	0 18
Dracena viridia, doz.	9	0 18	Myrtles, doz.	6	0 9 0
Erica various, doz.	80	0 60	Palms, in var., each	1	0 15
Buonymus, var., doz.	6	0 18	" specimens	21	0 68
Evergreens, var., doz.	4	0 18	Poinsettias, per doz.	15	0 8 0
Ferns, var., doz.	4	0 18	Solanums, per doz.	9	0 18

TRADE CATALOGUES RECEIVED.

S. Dobie & Sons, Heathfield Gardens, near Chester.—*Seeds.*
Sutton & Sons, Reading.—*Seed.*
J. Veitch & Sons, Ltd, Royal Exotic Nursery, Chelsea.—*Seeds, Hardy Trees, and Shrubs.*



*THE LIVE STOCK ALMANACK, 1900.

A DULL December day, with little to do out of doors, the day at the best short, who does not welcome the closed in evening, with the pleasant fire and cheerful lamp?

To make the evening quite a success there must be something to read, new and entertaining if possible. We will suppose that we are farmers, truly interested in all that pertains to our calling, and if so we can find nothing better or so good to read as this almanack now before us. Clear type, well illustrated, it treats of every class of stock that goes on (we were going to say four legs) legs. That is not quite true, for poultry comes within its scope, and also there is an article on those birds whose lives should be held sacred by the agriculturist.

We most of us have our pet fancy, and we must say that we all find here their pet fancy treated of.

Naturally the "merry geegee" comes first. Long may it be before he collectively or individually ceases to attract. To many a Yorkshireman he is as dear as the chickens, for Yorkshire is pre-eminently the horse county of Great Britain. There is a short article on the breeding of race horses from 1802 to the present time. It is interesting as showing how the stoutness of certain sires is still to be found in their offspring after so many years; they have left their mark as plainly as though it were stamped with a die.

For those who are interested in racing there is a capital summary of that sport during the year. It appears that the premium sires are doing a good work, some of them leaving as many as 70 per cent. of foals. Of course all these well bred youngsters will not be gold mines, but that there is some sound stock among them is proved by the medals and prizes and "specials" that have fallen to their lot at the shows throughout the country.

In what we may term the "pleasure horse" there is much to learn and money to be had—by the few. Horse breeding is most engrossing but risky withal. It is fortunate that we still require horseflesh for the pursuit of Reynard, and polo ponies for that manly sport, and the smart hackney for those who prefer to be carried or drawn rather than propelled by steam.

Surely our heavy horses leave little to be desired. What a fashion this shire breeding has become, and we should say it is a profitable one, too, in capable hands. At any rate, we are getting a wonderfully improved stamp of horse, and a really first-class animal will always make a good price. A farmer who can breed a few good geldings finds the town buyer will snap them up directly they are fit for his work. He wants the horse, the purse is quite a secondary question. Cleve-

* Vinton & Co., Ludgate Circus.

land Bays and coach horses, Clydesdales and Suffolks, all come in for a due share of attention.

We saw last week that 50 000 more mules were wanted for our present undertaking with Paul, and so W. B. Tegetmeier's paper on the utilisation of the mule was read with the greatest interest. We think there is something in the idea. Will Sir Walter Gilbey give it his attention? we want a pioneer.

As for horned stock. Oh! the list is tremendous! Their successes in the show ring, their prices at auction sales, the names of those heroes who have travelled far away into the distant regions are here catalogued, and each by his own particular advocate. There is something to be proud of. English agriculture cannot be moribund yet. Her well bred stock is known over the civilised world, and if we could peep into many a colonial parlour we should see copies of herd books, the very backs of which would make us feel at home at once.

If we are good hands at beef making we can also take first place as sheep rearers, and if the trade in rams has during this last year not been quite equal to past seasons, still there is nothing to be ashamed of. Here again we find a good export trade. We could wish wools were better; but it is a long lane that has no turning, and the turn may not be far off.

A question is raised as to whether agricultural shows are teaching all the lessons they might. Are they maintaining their popularity? and Sir R. D. Green Price gives some excellent hints well worthy the attention of those who have to do with the working management of shows.

The article by Mr. C. Stein comes home to us just now; it gives us some idea of the difficulties our men have abroad with regard to their horses. Anthrax is bad enough here amongst horned stock, but in India it also attacks horses and is most virulent. Whether the African "horse sickness" is some form of the same fell disease has not yet been absolutely proved. There is a wonderful family likeness in the two.

Mr. Geo. Fleming contributes an interesting article on fractured bones of the horse, and shows how, by patience and care, serious fractures may be reduced and the patient made "goable" again.

Mr. Ed. Brown is ready to give us a good mark or two for greater care and common sense in the poultry yard. He thinks we are beginning to see there is something to be had by a little method, that we are getting out of the old ruts, and putting ourselves together generally. A careful perusal of his remarks will forward us a little more; but mind, we must not just read and then go away and forget. There are many little matters in our own poultry yards that are not quite as perfect yet as they might be.

From eggs to bacon! well there is nothing to beat English-cured yet, if we can only get it; but we want the best type of pig, and to learn what the type is please apply to Mr. Saunders Spencer within. He is a competent guide, and knows all there is to be known, or thereabouts, re swine.

All this good matter in one volume, and yet this is not all—almanack and diary, tables of all sorts, breeder's directory, lists of fairs and markets, live stock societies and agricultural societies, it really is a *mulum in parvo*. We ought to add there is not a dull page from cover to cover, and there is great credit due to the proprietors for maintaining, as they do, year after year, the intrinsic value of the book.

WORK ON THE HOME FARM.

Winter at last! But, has it come to stay? We have been so accustomed to unseasonable weather for several years that when real winter takes his rightful place we may be poorly prepared to meet his severities.

Alas! This seems to be the probable case at the present time, should the promise of winter be fulfilled. Only a small proportion of the growing and unstored root crop is in any sense suited to withstand severe frost. The general crop is very small in size, and therefore fairly tough, but never having possessed a tap root it has grown very much out of the ground, and is therefore peculiarly susceptible to frost injury.

Farmers who have stored all the Swedes and Mangold worth storing may have every cause for congratulation, whilst they can have none for regret.

Should frost continue we may give the horses a rest and do a little thrashing, or if there be manure to get out we may find plenty of employment in that quarter, but we must remember the comfort of the animals, and restore the bedding plentifully with straw (dry and well spread). Straw bedding is wasted if put down in big lumps. A man who rolled his blanket into a lump and sat on it, expecting thereby to keep warm, would be jeered at. Then spread the straw blanket well abroad for the cattle, that they may lie in it, not upon it.

Whilst on this subject we might mention that trials in connection with tuberculosis have shown that open air treatment is most conducive to health, and that, therefore, the open yard with a common-sense bedding of dry straw is the right treatment for cattle, either breeding or growing if they are to be kept in such a state that they may pass either the "vet," or the market.

The ewes had better be kept off Turnips as much as convenient during the frost. Roots are very scanty, and frozen ones are never good for breeding ewes, so we had better use more straw and fodder, which are both plentiful and cheap. Both are a little dearer, but still cheaper relatively than other foods. Good hay is certainly cheaper than cake, and more economical if intelligently used.

We see that straw is quoted as low as 15s. per ton on some markets. Cut up and used with a little treacle and malt culm a good and cheap substitute for roots is provided. This may be given to the older stores, and the hay saved for the young cattle and sheep.

PRICKLY COMFREY.—Has anyone grown this as a fodder plant? I have never seen it so, but as a curiosity in odd corners I have met it many times, and when a few handbills have been given to the cows they have left it, and it has been discarded as useless as food.—A. D. S. K.

WINTERING IN-FOAL MARES AT GRASS.—Where in-foal cart mares can be spared from the team they should now be turned afield for the winter. Thus they get rest for their feet and legs, and establish that healthy state constitutionally that is so needful to insure the bearing of healthy foals. Grass may appear to be cold diet, and the field chilly quarters, but I have found that there is no better way of reaching success in breeding than by turning the mares adrift in the fields in winter. If the pasture land is tolerably good, and there is an average covering of grass thereon, no extra food is needed unless it be in time of hard frosts and snow, when an armful of hay night and morning will suffice. Thus wintered the animals come up at spring, just before foaling, in good condition, quite healthy, and in every way in a suitable state to bring their foals.—("Rural World.")

BREEDING EWES.—The ewe flocks are in the early districts being taken from the rams, and have marvellously picked up in flesh on the fresh pastures. It is for flock-masters to now see that their charges do not sink in condition during the coming trying months—a circumstance that by no means uncommonly occurs. It is just at the beginning of the year, says the "Rural World," that the decline in flesh is mostly noticeable; but now's the time to buoy up the system against the trying time. If you allow your breeding ewes to get poor against lambing time, you may not possibly get up the condition until after the lambs are weaned in the following summer, and a very poor lot of lambs the mothers generally give. Troughs should be placed now in every field, and the ewes get a pint of oats per head daily, and that will keep up the condition and insure luck at yearning day to a considerable extent.

ADULTERATION OF DRUGS.—If the adulteration of food stuffs with harmless materials is mean and paltry, what shall we say to the adulterator of drugs, upon which, at certain critical times, our very lives depend? More than once in advising readers as to drugs for veterinary purposes I have warned them against the cheap store, and said "Don't haggle over prices of drugs." Let me now offer you proof of my belief in adulteration, from the blue book of the Local Government Board of England and Wales. There were in 1898, 1641 samples of drugs analysed, and 198 found to be adulterated, very close upon 12 per cent. One of the frequent remedies employed in colic draughts for horses, and in fevers and colds, is sweet spirit of nitre, and the proportion of samples adulterated was thirty-nine out of 173. Fifteen out of eighty-two samples of sulphur were impure, and of lime water thirteen out of forty. These are flagrant instances, the whole report showing a more favourable average, but enough has been said to prove my contention that it is not worth while to invite adulteration, and that the best is the cheapest in the matter of drugs, whatever may be the case in regard to other articles. As all who are interested in the land contribute so heavily to county and all other rates, it may afford a grain of comfort to be told that the expense of analysts and the detective work connected with it, is gradually, but surely, securing greater purity in nearly every department; the persistent raids made on the sellers of articles particularly liable to sophistication, in all cases leads to reform, as proved by the statistics of the great blue book from which I have quoted.—VET. (in "Farmer and Stock-breeder.")

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Journal of Horticulture.

THURSDAY, DECEMBER 28, 1899.

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THE PASSING YEAR.

IN the course of a few days the ninth year of the tenth decade of the nineteenth century will have run its course, and we shall have entered upon the last short round in the annals of time for completing the cycle when the twentieth century will be ushered in. It is true, not a few of our correspondents, as we know by incidental expressions, assume that the new century is just about to dawn upon us. We find no fault with them, though we happen to think that the tenth decade must be finished before a new one can commence, and with it the twentieth century, when another Christmas shall have come and gone.

After all, the matter is not of substantial importance, and it is only mentioned because gardeners and garden lovers like, and must have, something to think and talk about besides gardening. They may argue, and show, and prove, that we are wrong on the question of "time." This would give us no concern; but we should not close this year, or any year, happily, if our loyalty to the pursuit we love were doubted; if the methods we adopt in endeavours to foster it were discountenanced; if the advice we give from time to time in the desire to be helpful were, to any material extent, mistrusted; and if our appreciation of the valued aid of hosts of friends were for a moment, and by any one of them, to be questioned, or in a remote degree suspected of being other than what it is—a strong, real, living, and lively actuality.

Though we see, as all must see and feel, that the year is passing amidst political disturbances of the most acute and, indeed, terrible character, the immediate effects of which all who have not hearts of adamant must of necessity deplore; yet even in this reference we have something to unite us in producing a great national avalanche of admiration of the prowess of our brave, bold, devoted fellow mortals, who are spending their lives, at duty's call, in an undertaking as far removed as the poles asunder from our cherished art of productiveness and peace.

Proud as we may justly be of the heroic efforts of our brothers-in-arms, let us not overlook the

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dread consequences of their bravery, but extend our sympathy in a practical manner to our mourning sisters and the helpless children dependent on them, each of us in his own way imparting succour in dire distress, and giving help in time of need. Then shall we not the less, but the more, derive pleasure from the health-giving, food-producing, beauty-providing pursuit of gardening; then will the old year pass the more happily with us, and the new open, we would fain hope, the more encouragingly and satisfactorily.

With us, journalistically speaking, the year is gliding smoothly away. It is passing amidst feelings of friendliness with the conductors of our respected contemporaries at home or abroad. Each with its contingent is worthily doing its duty within the respective "spheres of influence," and all form a great army engaged in wresting from the soil all the bounteous stores of goodness that it can be made to yield by the great twin power of knowledge with industry. The ranks are swelling yearly, and a greater number of homes are consequently being made brighter and better than before.

We rejoice in the share that we are enabled to take in this crusade of peace; of the world wide constituency that we are glad to command; of the trusty old friends who have travelled with us for many years, and of the young adherents that are each year enrolled. We rejoice also in the many searchers for information, for this shows earnestness and activity—qualities which are essential to success. And certainly not less proud are we of our long roll of imparters of knowledge in gardening. In and by their varied acquirements, the result of years of successful work, we think we possess the means of meeting the requirements of amateurs and gardeners alike, and of aiding in doubts and difficulties as they arise.

Moreover, besides the veterans, young men of marked ability and great promise are always coming along and finding a welcome; some have evidently come to stay, though others, as is the way of the world, being prone to take long rests or faint by the way. This gives variety, and variety is the charm of the garden; and a reflex of this, or of many gardens, and the work done in them, is, we may fairly say, our literary garden, the *Journal of Horticulture*.

We dwell not on the events of the passing year—its gains and its losses in gardening—or moralise on the future. This will be done by the most versatile amateur living—the indefatigable octogenarian—"D., Deal," in the early days of 1900, which we think he regards as the opening of the new century. We are content to refer to the present—its association and engendered thoughts; to acknowledge many kindly greetings, and register the hope, if briefly yet earnestly, that with all our friends—amateurs and gardeners, writers and readers, old and young—the old year of 1899 will pass pleasantly and peacefully away.

FRENCH BEANS IN POTS.

FRENCH Beans are easily cultivated in pots in a light position in a heated structure, and later in the season in a greenhouse or frame. That popular variety, Canadian Wonder, forces very well; but the earliest plants should be raised from seeds of the best standard early forcing varieties, these consisting of Osborn's Early Forcing, Sutton's Forcing, Prolific Negro, Sion House, and Ne Plus Ultra.

A temperature of 60° to 70° will suit these Beans best. Eight-inch pots may be moderately drained, and half filled with a compost of equal parts loam and manure pressed moderately firmly. Eight seeds are sufficient for each pot, placing them 2 inches apart and half an inch deep. Moist soil ought to be used, but a slight sprinkling may be given after the seed is sown, which will suffice until germination has taken place; then give a moderate supply, more as the plants advance, and afterwards always maintain the soil moist. In a few weeks a top-dressing may be given of equal parts of soil and manure, and the plants should be supported with twigs or small sprays, as the growth is tender and likely to fall about. Stimulants consisting of weak liquid manure and sprinklings of artificials may be applied when the pots become full of roots.

Good culture and attention to watering causes the plants to be prolific, and prevents red spider infesting the foliage—the greatest drawback to forcing Beans. Dispense with all plants as soon as they cease to be prolific, maintaining a continuous supply by successive sowings. The Beans will not do well in the shade, therefore should be kept as near the glass as possible.—E. BARROW.

DISTINCTIVE GARDENING.

(Concluded from page 517.)

IN the creation of features totally opposed to local natural surroundings costly mistakes are not infrequently made, and the more expensive they are the farther from redemption. In one particular place, where a large amount of money was expended by a wealthy merchant, some of the results are particularly incongruous, and the whole generally unsatisfactory. The visitor is told that so many thousands of pounds were spent on laying out the grounds, and marvels at the outlay which has produced little more than a sham. Distinctive features are, of a truth, not wanting, but without coherence giving a jarring sensation, "like sweet bells jangled out of tune." Here and there, certainly, the keynote of harmony is felt to have been touched, but as quickly lost in the puerile, if not the grotesque. A costly work of this kind may be summed up as one

"Whose incoherent style, like sick men's dreams,
Varies all shapes and mixes all extremes."

How utterly useless it seems for gardeners, as students of Nature, to even attempt the reproduction of Nature's handiwork, which is "Too great for haste, too high for rivalry." Infinitely more satisfactory is it, if less ambitious, to develop rather than to destroy such distinctive features as present themselves for the purpose. One may, of course, go so far as to quote, "Nature unadorned is adorned the most," but that seldom goes far enough to cover the garden artist's work. Even on the largest scale, even to the stupendous one of creation, man seems somehow to be an indispensable part of the great natural plan—the factor to finish the work, but as minister, not as master. Directions are not wanting for his guidance, delicately traced, truly, but sufficiently clear for those who live in silent communion with her visible forms.

It is not a matter for surprise that the enthusiastic hand when taking grip of a pliant subject should press matters to extremes; much in the way of the elephant requisitioned to place upright a huge Palm storm-tossed out of the perpendicular, whose elephantine mightiness, not satisfied with having accomplished that, deliberately pushed it over on the other side. Some of the happiest conceptions of the picturesque freedom of wild gardening seem within measurable distance of being toppled over by the introduction of our coarser native plants—weeds in fact. All are beautiful, in a way, it is admitted, even to a luxuriant growth of Nettles, which rank, indeed, but little lower than many aggressive plants of that ilk, some of the wildest of wild gardeners have been introducing as distinctive features. "Wild d'ye call it," said a critic when viewing a specimen of the extreme type, "I call it downright savage; none o' that for me."

From the broad highway of general routine diverge many pleasant bypaths into the kingdom of interest and beauty. The casual caller to a large garden expects to see grand Grapes, various vegetables in perfection; everything which tends to that high tone distinguishing good gardening. He sees and is satisfied, pleased in fact, but it is the unexpected features which please the most and leave, if possible, a more lasting impression. At what small cost, too, is a veritable eyesore converted into a thing of beauty, carrying as well on the face of it heaps of suggestions, endless possibilities. Ever and anon "our Journal" tells the tale of some new departure begotten of a resourceful mind. An example is furnished by "N. E., Northumberland," who tells on page 494 of Miss Willmott's happy thought and his own labour of love in converting a "low-lying, boggy sort of swamp" into a home for Iris Kämpferi. This article (which is worth re-reading by those interested) concludes with "We are adding other features, such as Primula japonica, P. rosea. . . . Bamboos, and what has hitherto been an eyesore into a place of interest and beauty." No better illustration of this side of our subject presents itself at the moment, and it is very doubtful whether in the whole domain of distinctive gardening a better one could be found.

"How are the mighty fallen" was the thought when on visiting a friend a few years since, he said, "My Lord has gone in for marketing." Condolences followed; they were neither grateful nor comforting; wholly unnecessary in fact. Our friend had merely bowed under the ill wind of depression, then sweeping our land, which might have easily broken the spirit of a less adaptable man, and found fresh fields to conquer in catering for the market. Still the same air of smartness about the man and his methods which had formerly distinguished him when competing for "the cup," and now enabled him to capture top prices with the best produce. "Rather tame sort of work, isn't it?" was the question put to him. "Not a bit," was the reply, "come and have a look at the span-roofed stove." "What! Your grand plant stove, roped to the apex with Telegraph Cucumbers." How, indeed, are the mighty—. "No, my dear fellow, that Cucumber is a distinct one of my own raising, a cross between such a

one and so-and-so; better than either for my purpose, and both were good." A visit to the packing shed showed a pile of light, clean boxes all branded with "My Lord's" coronet. "Just a trick of trade," was remarked. "Yes; true, but our brand is now known and sought for, and I think his lordship is rather proud of his good name in the market. It was not the pride, however, which goeth before a fall, but the well-earned kind which came after it. Ah! It is a pleasant and profitable thing when men who cannot get what they like learn to like what they have; and, moreover, excel in it.—A. N. OLDHEAD.

CHRISTMAS REMINISCENCES.

THE majority of gardeners, I trow, are sometimes inclined to take a retrospective view of their career, to carry their thoughts backwards to the days of youth, when their strength in the battle of life had just begun; when hope, ambition, and enthusiasm rose high at the thought of the boundless possibilities of the future—their future—in the great world. Perhaps, at no season of the year do such thoughts come so instinctively as at Christmas time, which seems to connect the present with the remote past by events which form an unbroken chain, along which to guide the memory. The years of both life will doubtless stand out clearly, even though they take the ponderer back a few decades; the distant past is often engraven on the memory, when quite recent events have been obliterated.

Those days of both life will, I am sure, by not a few be remembered as bright stirring pages in the open book; lasting acquaintances were then formed, which remain unbroken until the death knell rudely cuts the chain. It seems to me, when looking back, that all of us in our bothy days had fine opportunities of forming opinions of men and things of who among our workmates seemed likely to ascend the highest; the ladder whose steps we had begun to mount. My spare moments were often employed in such mental puzzles, and without wishing to be in the least egotistical, events have proved that my judgment in that respect has in many instances proved to be correct. The bright sparkling spirits of youthful days do not always forge their way to the front in later life; the man sticks, stays, and never loses heart seems to achieve the best results in these days of keen competition. Sustained effort should be the watchword of all.

But let us hark back again to the struggles and pleasures of bothy life, for after having seen life in many phases, I fancy that young gardeners have as many opportunities of getting their share of pleasure as do others in similar stations, yet different callings. The old-time bothy, with its discomforts and lack of convenience, was, after all, not disliked by vigorous youths, because it had the great advantage of sheltering those engaged in the same calling, those who had the same hopes and aspirations; it created a little circle, in fact a home—though a rough one—where there was freedom and opportunity for pleasant chat when all met on equal terms. Bothies during recent years have, however, been greatly improved, and they afford infinitely better accommodation, of a really comfortable kind, than thousands of young men who travel to the great city daily can boast of. Of work there is plenty for the dwellers in all bothies, but be it said to their credit the majority of them make light of it, and as the toil of one day is over they are often eager for the morrow to come.

British gardeners take to work as readily as some individuals take to pleasure; in fact the terms are identical in many a young gardener's mind, and thus the gardening world moves merrily along. Trying times come of course, times when all the energy and strength of youth are needed; days of hard work, followed by many hours of stoking on damp, frosty nights; days when the cutting winds and changeable weather of spring, as well as the scorching sun of summer, make close attention to detail no light matter, but in the main it is borne well, and the struggles form matters for pleasant laughter when the "tug" is over.

Ah! at Christmas time, too, the young gardener has his pleasures, even though the mansion is packed with company, which makes all hands busy throughout the day, and often in the evenings as well. There is no chance, they know, for them to speed homeward and join the family circle, but they have pleasures near at hand, where the good old custom of inviting the botheyites to dine and spend the evening at the castle or mansion is still kept up. The innocent fun and frolic of such times warms the hearts and cheers the spirits of many who are far from home; it brings together the lads and lassies who, but for such acquaintance, would be "strangers in a strange country." The mutual sympathy thus engendered is good for all in this enlightened age, and helps, in the case of thousands, to make life's burdens tolerable. Many thousands of young gardeners at this festive season have enjoyed such pleasant times, as the writer looks backward to with unfeigned pleasure—perhaps, too, with some regrets.—ONWARD.



DECORATIVE CHRYSANTHEMUMS.

THE ever popular exhibition blooms have now had their season, and thoughts are turned towards the next year's selection, which, to the average grower having a moderate allowance, is by no means an easy task. While the exhibitor must needs keep an open eye on the best his means may provide him with, the present season has its claims in providing flowers for cutting and dwarf growing kinds that with retarded culture will furnish plants for vases. In many establishments the Christmas season and early months of the new year severely tax the resources of the garden, and not a little dissatisfaction is aroused if the flower supply falls short of that expected or required. Growers who have the means of testing some of the newer and varied coloured Chrysanthemums would do good service to a large section of the Journal readers by diffusing such knowledge gained by actual experience. There is a large and increasing selection for November use, but when Christmas demands are met there is a sparsity of such flowers commonly felt.

W. H. Lincoln still furnishes one of the best yellows, both as a decorative plant and vase blooms; its dark foliage, rich colour, and free branching growth seem yet indispensable. E. G. Hill, too, is another bronzy yellow that cannot be ignored undisbudded. This gives a profusion of both useful sprays for cutting and plants for rooms. Both are entirely distinct, and admissible in the smallest collection. Several others I had grown for late use are over. A long list of names is not that which gives the desired information; it confuses rather than instructs, and, moreover, is unnecessary for large or small growers, for the simple reason that a stock of one good variety is better than single plants of several sorts.

Lady Lawrence has been earlier than usual, and Niveus has been gone some time. L. Canning still remains one of the best late whites, and what is interesting about it is its immunity from rust attack, when so many others have been spoilt. Lady Lawrence and Niveus have been quite defoliated in many cases by the ravages of this fungus. M. Felix Perrin is most useful, free from disease, and a remarkably good keeper. Mr. Molyneux recommended this a year or two since, and it certainly has come to stay. Its flowers are of a pretty shade of pink, varying in the large and smaller flowers on undisbudded sprays. King of Plumes is a pretty fimbriated flower, late, a good keeper, and a very rich yellow. Princess Victoria, a greenish white, is very late, and will be useful. A bronze or crimson counterpart of this would be invaluable. Mdlle. Thérèse Panckoucke is a pearly white late variety, not so free, perhaps, as some, still a useful addition.

With this selection I shall have a good supply for some weeks, but if other readers can give the names of better substitutes they will do good service. As I have previously intimated, long lists that have to be sifted are bewildering rather than helpful.—W. S., *Wills*.

SHOW SCHEDULES.

Now that the recent "blizzard" of Chrysanthemum shows is over committees will be considering the formulation of schedules for the ensuing year's campaigns, and no doubt, in the majority of cases, casting about for additional ideas to vary and enhance the prize classes. A welcome and commendable step has been taken by more than one society in offering prizes for Chrysanthemum blooms cut with long stems and arranged in tall glasses or vases, thus supplying a pleasant relief from the monotonous and stereotyped "show" stand classes of cut blooms.

As committees are, in a general way, ever ready to consider any suggestion, I propose to write a brief note on the subject. For instance, prizes might be offered for Chrysanthemums in pots trained differently from the ordinary bush style, say "standards" with expanded parasol-like heads and pyramidal-trained plants, such as made a pleasing impression on the writer upwards of twenty years ago in St. George's Hall, Liverpool, artistically disposed amongst the "bush"-trained plants. The fine show of bush-trained plants at the late show held in Bingley Hall, Birmingham, presented a somewhat monotonous effect, and the effect would have been materially enhanced had a few differently trained specimens been introduced among them. Moreover, owing to the exigencies of space, the plants were so crowded together that it was somewhat difficult to discern the individual collections.

There is also another suggestion worthy of adoption—viz., a class for "a group of miscellaneous plants arranged for effect," and which would afford a most pleasing relief to the Chrysanthemum groups, and also give non-Chrysanthemum exhibitors an opportunity of displaying

their stove and greenhouse flowers. I believe that "groups," as indicated, were in the programme of the Hull Chrysanthemum Society.—W. G. [Not only Hull, but dozens of other societies invariably provide classes, generally with handsome prizes, for groups of miscellaneous stove and greenhouse foliage and flowering plants arranged for effect.]

LINUM TRIGYNUM.

THIS old introduced winter flowering cool greenhouse plant deserves more recognition than is usually accorded it, especially where yellow flowers are in request. It is a great favourite with Mr. W. B. Latham at the Botanical Gardens, Edgbaston, and has been extensively cultivated by him for many years past. Another feature worthy of consideration is the comparatively small trouble connected with its cultivation. In further reference to its decorative attributes the writer recently met a lady with a handful of its sprays with a similar complement of the beautiful *Lasiandra* (*Pleroma*) *macrantha*, and was much struck with the harmony and effect produced thereby.

Regarding its cultivation, probably why it was comparatively little grown in former times was owing to the treating it more as a stove plant, and thus inducing a flimsy habit. The flowers are naturally, under any conditions of temperature, of a fugacious character, but are quickly replaced by the multiplicity of successional blooms.



FIG. 97.—DENDROBIUM SPECTABILE.

Useful plants may be produced from seeds the first year if sown in spring, but the more popular method is to grow it from cuttings in the spring, which root readily under the same treatment as that under which ordinary softwooded plants are propagated. When rooted they should be potted, and grown in the hotbed for a time, and pinched back as they grow to induce a bushy habit, also giving a shift into larger pots as required.

As the season advances remove them to a cooler structure, and finally consign them to a cool frame, where an abundance of air may be secured. As the plant is liable to be infested with red spider, moisture at the root must not be neglected, and frequent syringings in warm weather serve as an antidote to insects. Occasional applications of liquid manure will be found of great benefit. A compost consisting of turfy loam, leaf mould, or Mushroom bed refuse, and a little sand to secure porosity, will afford an excellent medium for its successful culture. I have grown large plants in the conservatory border, selecting a position where all possible light and air were at command, and where the plants afforded a plentiful supply of cut flowers.

It is many years since I saw *Linum trigynum* grown to perfection at Chatsworth, where a row of established plants on each side of the wide central walk in the large conservatory in the month of December presented a picture of floral beauty not readily forgotten.—W. GARDINER.

CRASSULA SAXIFRAGA.—This charming little South African plant is excellent for growing in small pots or pans for a front place on the greenhouse stage. It is of neat, compact habit. The small *Geranium* like leaves are bright green and glossy, and about 1 inch across. The flowers are white, suffused with pink, and borne twelve or more together in an umbel surmounting a scape 6 inches high. By planting above the rim of the pot among bits of sandstone, or in crevices in an indoor rockery, its beauty is greatly enhanced.—D.



DENDROBIUM SPECTABILE.

THE Drill Hall meeting on Tuesday, December 18th, was one of the smallest on record, and opinions were freely expressed that a second December gathering was not necessary. Whether this is the case or not, the one now being referred to brought *Dendrobium spectabile* from Mr. F. J. Thorne, gardener to Major J. Joicey, of Sunningdale Park; and it created quite a sensation, as it is the first known time that it has been flowered in this country. It is very beautiful indeed, though in many respects it does not partake much of the *Dendrobium*. The plant exhibited carried four perfect flowers, and was in a very healthy state. The sepals and petals are creamy yellow, with broken lines and spots of maroon; the margins are wavy and undulating in character, and terminating in long cream points, destitute of other colour. The superb lip has a length of 2 inches, and is peculiarly twisted and undulating in character. The ground is deep cream, barred with blackish brown, and having a central broad line of bright chocolate. The base of the lip and the side lobes are milk-white with crimson bars. The width of the flower, which is admirably portrayed in the illustration (fig. 97), is just over 3 inches. The Orchid Committee recommended a first-class certificate. Mr. Thorne, who is remarkably successful with what are usually known as difficult Orchids, has promised to give readers of the *Journal of Horticulture* particulars of the treatment to which he attributes his unvarying success.

D. spectabile was introduced into this country many years ago by Messrs. J. Veitch & Sons, Chelsea, and re-introduced some three or four years ago by Messrs. F. Sander & Co., St. Albans. It is represented in several collections in the country, and is now flowering with Mr. White in Sir Trevor Lawrence's collection, and with Mr. Downes in that of J. T. Bennett Poë, Esq., but was not in either of these cases sufficiently developed for exhibiting on the 18th inst., so that Mr. Thorne has secured for Major Joicey the honour of being the first exhibitor and the holder of the first-class certificate.

CYPRIPEDIUM HERA VAR. EURYADES.

THE extraordinarily varied *Cypripedium* family is constantly being added to by our most skilful hybridists, and these augmentations give a variety of form and colour that is little short of astonishing, and was undreamt of a generation ago. One of the latest to receive the prominence of exhibition before the Orchid Committee of the Royal Horticultural Society is *C. Hera* var. *Euryades*, which is represented in fig. 98. This was shown at the Drill Hall on December 5th by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, and is an exquisitely beautiful flower. The superb dorsal sepal has a white ground suffused with green at the base, and with numerous large and small brownish-purple spots, and a broad margin of white flushed with rose. The pouch is rather above average size, and is claret-purple in colour. The varnished petals are green profusely spotted with brown, which colour practically obscures the ground of the upper half. The Orchid Committee recommended a first-class certificate for this *Cypripedium*.

EPIDENDRUM ENDRESII.

It is a great pity this charming little plant is so uncommon, for it is one of the most beautiful in the genus despite its small size. From small erect stems about 8 inches or 9 inches high it produces terminal racemes of pretty white flowers with purple spots about the lip and column. Naturally such a plant does not need much compost or a large pot, and it has a pretty effect grown in small baskets. The collector whose name it bears found this pretty plant in Costa Rica about a quarter of a century ago, but neither his efforts nor those of subsequent collectors have been rewarded by much success in importing it alive.

CATTLEYA CHOCOENSIS.

There is really very little in this *Cattleya* excepting the name to separate it from *C. Trianae*, and even the latter is a misnomer, for a well-known traveller in the neighbourhood of its habitat tells us that it grows in the State of Cauca in Colombia, and not in Choco, as the name would indicate. The plant is the same in habit as the above species, and the flowers differ only in not opening fully. The sepals and petals are white or very pale rose, the lip having light purple side lobes, a yellow throat, and a bright purple blotch in front. The blossoms are sweetly scented, and it requires the same treatment as *C. Trianae*.

ONCIDIUM BRUNLEESIANUM.

The genus *Oncidium* contains a remarkable number of beautiful plants, yet it is a pity that this species is not more plentiful, as it is such a distinct and striking kind. Few even among the small number of orchidists who have seen it at all could realise what a beautiful thing it is when the panicles of flower are produced of their true size. The individual flowers are small, yellow with red markings on the outer segments, and a maroon blotch on the lip. *O. Brunleesianum* was first sent to this country alive in 1883, and has only been very sparingly imported since.

PHAIUS TUBERCULOSIS.

Good and well grown plants of this delightful species are none too frequently met with, and I was pleased to get a spike, evidently from a well grown plant, from one of my correspondents recently. It is so thoroughly distinct from the majority of the genus, that anyone seeing it for the first time would have a difficulty in giving it its place. It has usually been found difficult to manage under cultivation, and very liable to get less instead of larger, but it is certainly worth all the trouble of growing. It is a native of Madagascar, and was introduced by Messrs. Sander and Co. in 1880.

BRIGHTLY COLOURED ORCHIDS.

The majority of Orchids have flowers that are rather on the quiet side than the very showy, but there is a large number of plants with brightly tinted blossoms. Nearly all of these are extremely useful and free flowering. For instance, the bright orange *Epidendrum vitellinum* is certainly one of the finest cool house kinds in cultivation—easily grown, very free, and the flowers lasting an immense time in good condition; one of the best. The well known *Sophranitis grandiflora*, again, and its varieties, are very fine, lighting up many a cool Orchid house in the dark days before Christmas.

Coming a little higher up the scale as regards temperature, those two *Laelias*, *L. harpophylla* and *L. cinnabarina* are exquisite plants, both of which as parents in the hands of hybridists have given us some of the most lovely shades of colour imaginable in their progeny; and speaking of hybrids, the beautiful *Epiphranthis Veitchii* must not be left out. *Epidendrum radicans* and the *Sophranitis* named above are its parents, and what but a brightly tinted plant could be expected from these two? *Disa grandiflora* is bright enough to please the most exacting in this respect, while the rare and beautiful *Habenaria rhodochila* is perhaps the showiest Orchid in existence for its size.

So far I have not even mentioned the showy section of *Masdevallias*, a host in themselves, and a great many others are left out, but my intention in writing was not altogether to string a list of names, but more to call attention to the usefulness of these bright plants for associating with the more neutral tints common in the order, or with the white-flowering kinds, such as *O. crispum*. This Orchid, and the *Masdevallias* aforesaid, always appeared to me one of the most beautiful combinations possible in a group of flowering Orchids, while the feathery little spikes of *Cochlidodas* show up brightly against *Oclogyne cristata* and others of that ilk.

For cutting as buttonhole flowers, again, the bright ones have it all their own way, and many times I have won in very strong competitions at shows for these little bouquets by using a single flower of one of these species. *Epidendrum vitellinum* and *Laelia cinnabarina* when they can be had are buttonhole flowers *par excellence*. There is not spare time to go into the culture of the various kinds, but that of most of them has been ere now referred to in these pages. It may be noted, in passing, that none of those mentioned above present any special difficulty in this direction.—H. R. R.

LILIUM AURATUM.

THIS is undoubtedly the finest and most popular of all Lilies, and a number of good bulbs should be procured at its season for the purpose of cultivation in pots to produce summer display. Firm sound bulbs must be employed, these only can be depended upon to give satisfactory results. Those with injured or partially decayed scales must be voided, though if only a few of the outer scales are affected these may be removed, and the bulbs be no worse. If the scales are soft, partially surround the bulbs with moist cocoa-nut fibre refuse in a box in a cool position. They may remain until the bulbs become firm, then pot. It is the practice of some growers to allow them to emit roots into the fibre before potting.

A 6-inch pot is the best size for single bulbs, though some of the largest may require a rather larger receptacle. A 9 or 10-inch pot will accommodate three bulbs. They require to be placed rather low down to admit of top-dressing, and the pots ought to be clean, dry,

and well drained. A suitable compost for this Lily is two parts each of fibrous sandy loam, peat, and leaf mould, and one part each of decayed manure and sand, with a little crushed charcoal.

Half fill the pots with the compost, and then place the bulbs in position, introducing compost carefully round and over them to the depth of half an inch. No water should be given, as the bulbs having no roots do not require it, and the moisture present in the soil will be sufficient to maintain the bulbs plump until growth begins. The best position for the pots is in a frame safe from frost, covering the pots with cocoa-nut fibre refuse to the depth of 2 inches. No further trouble is necessary until growth begins. Then at once remove the pots to a cool position near the glass in the greenhouse, giving a little shade to the blanched growth until a green tint is assumed. After this the growth must be made in a light and airy position in a greenhouse, affording water to the soil whenever the surface dries. The cooler they can be grown the better.

As the stems advance in height roots are emitted from the base in addition to the roots thrown out by the bulb. The production of the stem roots helps the growth of the plants wonderfully if a top-dressing is afforded as soon as they appear in quantity. The compost for this purpose may consist of the same material as advised for potting, though a little more decayed manure can be added with advantage. When the pots become well filled with roots weak supplies of liquid manure will be beneficial if given once or twice weekly. Soot water is excellent, and should be made by mixing soot into a paste, then adding additional water, stirring well and mixing in a spadeful of quicklime. This clarifies the soot water, causing it to be of a rich, clear wine colour. Healthy plants appreciate this stimulant, and respond by assuming dark green foliage, and eventually better coloured flowers. Cow and horse manure also make good stimulants. A peck of either is sufficient for 25 gallons of water. Give it to the plants in a clear, weak state.

After the early part of June the plants may stand outdoors until commencing to flower. Furnish each stem with a neat stake to keep it upright and prevent breakage. As the flower buds appear introduce

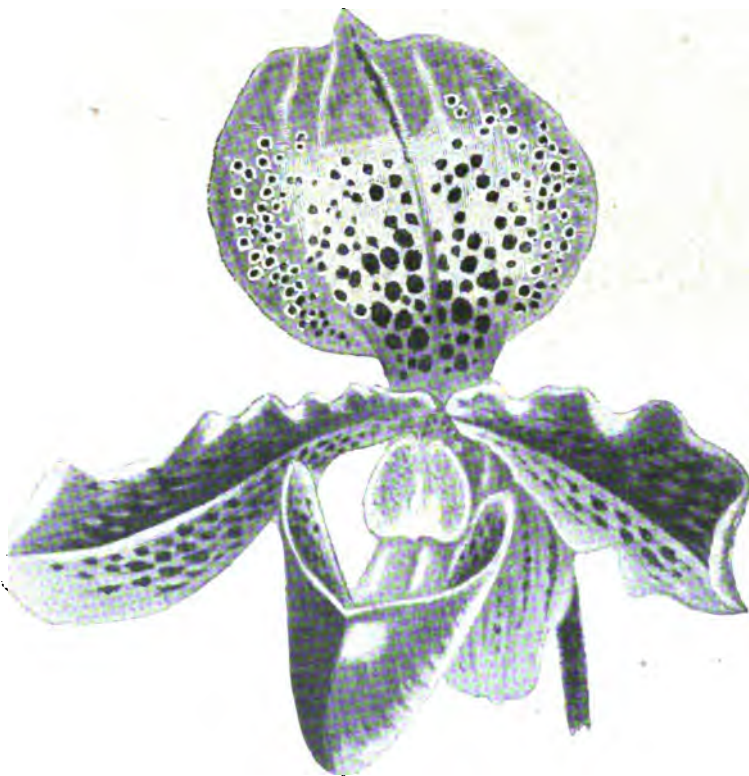


FIG. 98.—CYRTOPODIUM HERA VAR. EURYADES.

the plants again to the greenhouse or conservatory, where their imposing blooms will give beauty and fragrance for a considerable period.

In addition to *L. auratum*, the original type, there are some interesting varieties worthy of cultivation. *L. a. platyphyllum* has larger leaves, and is altogether more robust in character. *L. a. rubro-vittatum* is similar in habit and growth to the type, but the flowers are more distinct in character. Each petal is recurved, and down the centre runs a crimson band; there are also crimson spots on a white ground. In contrast with these robust varieties there is *L. a. Wittei*, having slender growth and creamy white flowers.—E.



RECENT WEATHER IN LONDON.—The climatal conditions have not been particularly characteristic of Christmas. On Saturday it was very foggy, but on Sunday it was somewhat clearer, as was it on Christmas Day, when there was a sharp evening frost. During the early hours of Boxing morning rain fell heavily, but it was fine though mild and dull until midday, when rain again fell. Wednesday opened dull and raw.

— SPIRÆA HYPERICIFOLIA.—In poor and gravelly soils it is often difficult to find a plant that will flower in summer and thrive, rooting down far enough to find moisture to enable it to do so. This pretty shrubby Spiræa will grow where many others of the genus would starve, and the charming little bunches of white flowers produced all along the somewhat slender growths never fail to attract attention. I have seen it growing out of an old wall and flowering vigorously, though no doubt more liberal treatment would insure better results.—B. S. E.

— VIOLETS FOR EXHIBITION.—"A. J. L." has struck a right note on page 521 as to the value of the Violet as an exhibition flower, but, as many readers are doubtless aware, the idea is not new, and Violets, both as pot plants and cut flowers, have been and are frequently exhibited. Pot Violets are often lifted from frames for the purpose, and cut flowers are usually shown in specimen glasses. A pretty class for, I think, three varieties, several bunches of each, was competed for at the recent Chrysanthemum Show at Bury St. Edmunds, and Mr. B. Marks, of Hardwicke, was placed first much to the chagrin of some other disappointed exhibitors who tried to find fault with his methods.—C. HALL.

— THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The sixty-first annual general meeting of the members and subscribers of this Institution will be held at Simpson's, 101, Strand, London, W.C., on Friday, January 12th, 1900, at 3 P.M., for the purpose of receiving the report of the Committee, and the accounts of the Institution (as audited) for the year 1899; electing officers for the year 1900, and for the purpose of placing sixteen pensioners on the funds, ten of whom will be recommended to receive the benefits of the Institution without election, and the remaining six by votes of subscribers. The chair will be taken by Harry J. Veitch, Esq., Treasurer and Chairman of Committee, at three o'clock. The poll will open at 3.15 o'clock and close at 4.30 o'clock precisely, after which hour no voting papers can be received. The voting papers have been issued. Any subscriber not having received a copy should communicate with the Secretary, 175, Victoria Street, S.W. The annual friendly supper will take place also at Simpson's, 101, Strand, W.C., at 6 P.M., on the evening of the same day, when W. A. Bilney, Esq., of Weybridge, will preside.

— EXHIBITING FLOWERS IN VASES.—It is evident that there is a strong reaction setting in against the stereotyped method of showing flowers of diverse nature on boards as hitherto. I notice that Mr. George Paul has been advocating a more free and natural method of exhibiting Roses, and as Chrysanthemums and Carnations have already so admirably led the way it is not possible that Roses can remain out in the cold. The only point in relation to Hybrid Perpetuals, the great exhibition flowers, is that to set them up with long stems in vases needs the cutting of a good deal of wood. Still farther, because the rosewood is so hard, it is just possible that flowers set up on long stems may not keep fresh in water, especially on hot days, so well as softer wooded stems will. There can be no doubt but that both Chrysanthemums and Carnations set up in vases, as is now so common, present themselves in the most attractive and beautiful aspects. We have seen Tea Roses occasionally shown in vases with charming effect. Mr. Piper has of late evidenced with his lovely new Rose, Sunrise, how charming Teas may be presented in vases and epergnes. We have, perhaps, a more difficult flower to deal with in the Dahlia. Certainly the huge, robust Shows and Fancies could hardly be made to look beautiful in vases; but Pompons could be so shown with pleasing effect, and the lovely Cactus forms more so. No doubt, exhibitors of Dahlias will kick at the suggestion that enough has been seen of the ordinary half dozen wire rack method of showing these flowers; but still the method is very formal and inartistic. Perhaps the N.D.S. may resolve to introduce valuable vase classes in larger numbers than has yet been seen.—A. D.

— GARDENING APPOINTMENT.—Mr. James Frizell, for the past eight years head gardener to James Wilson, Esq., Old Forge, Dunmurry, co. Antrim, has been appointed head gardener and estate manager to Lieutenant W. H. Nichols, Kilbrack House, Doneraile, co. Cork.

— HESSLE GARDENERS' SOCIETY.—A meeting of the above Society was held on December 12th. Mr. Mason presided over a good attendance of members. The essayist for the evening was Mr. Foyne of Hull, whose subject was "Common Garden Flowers and their Culture." An interesting discussion followed, which, with a cordial vote of thanks to the essayist and Chairman, terminated an enjoyable evening. Mr. Picker of Hesselwood was awarded the Society's first-class certificate for a magnificent display of late Chrysanthemums.—J. F. D.

— THE LATE MR. ALFRED OUTRAM.—Ah! poor Outram, those of us who saw him this year at Shrewsbury Show in his genial, happy mood—and, apparently, in the best of health—little thought that before the sands of the year had run out he would have joined "the great majority." It will be a hard task to find his equal as an expert judge of plants at the great shows, where his decisions were arrived at by calm deliberation, aided by wide knowledge. Shrewsbury Show, as well as many others, will seem singularly incomplete without Mr. Outram, whose quiet humour and good companionship made him a special favourite among all classes of horticulturists.—H. D.

— ROYAL METEOROLOGICAL SOCIETY.—The monthly meeting of this Society was held on Wednesday evening, the 20th inst., at the Institution of Civil Engineers, Mr. F. C. Bayard, L.L.M., President, in the chair. Mr. Baldwin Latham, M.Inst.C.E., read a paper on "The Climatic Conditions Necessary for the Propagation and Spread of Plague." Dr. R. H. Scott, F.R.S., communicated also a note on a remarkable dust haze which was experienced at Tenerife, Canary Islands, on February 16th to 19th, 1898. The haze during this period was exceptionally dense, so much so, that a steamer was two days and three nights on a voyage from Tenerife to Las Palmas, a distance she usually covered in five hours, while the "Tintagel Castle" of the Donald Currie Line was delayed for thirty hours, and the "Roelin Castle," homeward bound, had the dust so thick that for 900 miles the sun and stars were obscured and the ship was delayed two days.

— STRAWBERRIES UNDER IRRIGATION.—The latest bulletin of the Mich experimental station is entitled "Strawberry Notes for 1899." For some years the station has secured all the new varieties for trial. The soil is a moderately heavy loam, used formerly as a garden. Stable manure has been frequently applied, and the ground is now in good condition, although not ideal for fruit. The plants for this year's notes were set in May, 1898, 18 inches by 4 feet. Half formed matted rows and the remainder were kept in hills. About twenty-five plants of each variety were secured. Good cultivation was given all summer. A mulch was applied in early winter, and in the spring of 1899 was placed between the rows. About June 1st of this year the mulch was removed and the plantation irrigated at the rate of 800 barrels per acre, the mulch being replaced and the soil kept sufficiently moist the remainder of the season. A strip not irrigated produced less than half a crop. One hundred and sixty varieties were thus tested.—("American Agriculturist.")

— LONDON'S OPEN SPACES.—At the recent meeting of the Metropolitan Public Gardens Association, it was reported that the Local Government Board had assented to the proposed contribution by the Willesden District Council towards the Dollis Hill scheme, and that steps could now be taken to complete the purchase of this estate of 98 acres as a public park. The Secretary stated that the Brockwell Park Extension Committee, upon which the Association was represented, formed for securing the addition of 42 acres to Brockwell Park, at a cost of £72,000, had been actively engaged during the month in approaching various South London vestries. Lambeth had agreed to subscribe £15,000, and it was hoped that Camberwell, Newington, and St. George the Martyr, Southwark, would also become contributors. It was decided to render help in the laying-out of a children's playground in Sumner Road, Camberwell, and to take steps to oppose any Bill that might be introduced for enabling the Battersea Latchmere allotment land to be used as a building site, the land having been formerly part of a common. It was reported that the attention of the various County Councils in England and Wales had been drawn to the Commons Act, 1899, a clause in which, promoted by the Association, conferred upon all County Councils the powers of the London County Council in regard to providing open spaces themselves or assisting local authorities to do so.

— **"MY GARDEN DIARY."**—Accompanied with the beautifully produced "Amateurs' Guide in Horticulture," Messrs. Sutton & Sons send us their compact and chaste diary as above entitled. When given away it is, of course, theirs no longer, and the title becomes appropriate as in the possessive case. The diary contains, as usual, reminders of what should be done during the different months, and also affords space for notes and jottings that most persons like to make in the course of their gardening routine.

— **FLOWER-CLAD KOPJES.**—Under the above heading the war correspondent of the "Daily News" writes as follows:—"Bushy tangles of wild white Jasmine spring from among those boulders with denser growth of thriving shrubs bearing waxen flowers that blaze in brilliant scarlet and orange, and the coarse grass that begins to show on every patch of earth between the rocks is dotted with clusters like dwarf Petunias, or purple bells of trailing *Convolvulus*. A rich storehouse this for the botanist, whose contemplative studies, however, might be rudely disturbed by the shriek and boom of shells bursting about him."

— **THE ORANGE GROVES OF FLORIDA.**—That the South has many men of energy and persistence is shown in the activity among Orange growers in southern Louisiana and Florida. The few who killed up their trees before the terrible frost of last winter saved a good percentage of them above the bud. These grew rapidly last summer, will bear again next year where given good culture. This has encouraged many growers to begin to renew their groves and prepare to protect by means of hilling, smudging, and the like. This, says an American contemporary, is undoubtedly a risky business, but many believe that in five years the South will be producing more Oranges than ever.

— **JUDGING MELONS.**—It has been remarked that the abolition of the practice of cutting Melons to ascertain their value when in competition will cause some dissatisfaction among judges. I think, however, that most judges would welcome such a change. I, fearless of contradiction, submit that the majority of judges who have that task to perform look upon the cutting system as a disagreeable task, which often produces nausea, so many badly flavoured fruit being tabled. Judges are often led to conclusions by sweetness alone, ignoring tough flesh and absence of depth in it. Some of the finest fruits are almost scentless; a *La Favourite* we cut lately was so, but the flavour was of great excellence. It is one of the best flavoured sorts I know.—**M. TEMPLE, Curron, N.B.**

— **THE POOR EELWORMS.**—What has become of our old foe the eelworm? No complaint in *Journal of Horticulture* this autumn. Has the cure been found for the pest? I have found the remedy, or, I should say, remedies. I have not been troubled with the gentry this year; but what did for them I do not quite know. First, I put fresh soil in my borders, having thoroughly limed the walls; I added fresh lime, as advised in your columns some time ago, soaked the borders with soluble phenyle, according to your directions, and then added Veltha, as advertised, and thoroughly stirred the lot up. This mixture of medicines was too much for the poor chaps, and they bolted, or died in attempting to digest the nostrums, for I have not lost a plant out of 400 put out, and have had a thoroughly good crop of Tomatoes; last year I lost 25 per cent. I wonder which was the fatal dose? that's what puzzles me.—**W. B.**

— **FIRST-CLASS FRUITS AND VEGETABLES.**—Ignorant writers are fond of ridiculing the culture of fruits and vegetables under glass, as if the sole object were to get something out of season. They do not know that the skilful gardener can beat Nature every time in quality, as well as in the time when the article may be said to be in season. We have come to learn that, to some extent, in the house culture of Tomatoes, Cucumbers, Lettuce, and some other things—and those acquainted with the results understand full well that mere outdoor culture could never have product of equal quality—the prices obtained by those who grow for market compensate for all the extra trouble involved. Grape culture under glass was once very popular in America, but the easy production of the foreign Grape in the open air of California dampened the ardour of our cultivators. But no one has ever yet found a bunch of California Grapes to equal the results of a first-class Grape grower of the article under glass. Even in Germany and France, where the Grape does well in the open air, the glass house Grape grower finds a good profit in his occupation, if he is a real gardener and not an empiric. "*La Semaine Horticole*" notes that a cultivator of this class near Brussels produced a bunch that weighed over 7 lbs. It was sold at auction, and brought about 5 dols. 50 cents, which we suppose is about the highest price ever paid for a single bunch of Grapes.—("Meehan's Monthly.") [We rather suspect it is not—it is only about 3s. 6d. a pound.]

— **THE CHRYSANTHEMUM AFTERMATH.**—I have often been struck on looking over greenhouses in which a few weeks previously were seen splendid collections of Chrysanthemums with the unpleasant contrast later presented when the best flowers are all cut, the tails are hanging anyhow, wearing a dirty bedraggled aspect, whilst many cut-down plants show a condition of untidiness that is painful to see—the aftermath of the great flowering season. It seems very desirable that there should be a speedy clearing out of plants from houses the moment the bloom is over. Looking upon the remains or wrecks of former beauty is not at all exhilarating. Few plants grown in pots give these very defined contrasts so quickly as does the Chrysanthemum. The place for cut-downs is in frames, and not houses.—**A. D.**

— **THE WINTER MOTH.**—The note by "J. H." (page 544) on the habits of this insect, especially in relation to tree ascents, is very interesting, and I am sure needs no apology. I did once read somewhere that the male moth had been seen to carry the female moths into the trees on its back; but I always regarded that as a sort of pious tradition, a little yarn started in fun, which many would too readily believe to be true, and which indicates far higher intelligence on the part of the moths than in some human beings. But it is comforting to the credulous after all to learn that the story is on "J. H.'s" observation known to have been "all my eye." We may, therefore, still place confidence in the usefulness of the greased paper hands as bounds which the wingless female moth may not get over. How admirably does the old adage, "Prevention is better than cure," apply to grease-banding tree stems, so far as the winter moth is concerned.—**D.**

— **FUNGOID DISEASES.**—Messrs. Wm. Wood & Sons send us a prospectus on fungoid diseases in plants. It bears the Miltonian motto, "Here mine eye hath caught new pleasures." These "pleasures" to the enterprising Wood Green firm are presumably afforded by testimonials from gardeners and others describing the efficacy of Veltha as a fungicide and health promoter of plants. On another page a correspondent narrates his success in banishing eelworms by a mixture of medicines, including Veltha and phenyle, and appears to be in a state of mental perplexity as to which had the more conclusive effect on the "poor little chaps." Messrs. Wood perhaps would vote for Veltha, Mr. Abbey for phenyle; the ordinary man may be inclined to try both, and thus ascertain, if he can, which has the better, or worse, effect on his particular plant enemies.

— **AINSLÆA WALKERI.**—This is one of the two species of *Ainslæa* occasionally met with in gardens. The genus is an Eastern one, the species having been collected in China, Japan, and N.E. India, though not in any great quantity in either place. The one under notice has been introduced several times from Hong Kong, where it is occasionally met with in a wild state. An example may now be seen in flower in the T range at Kew. In general appearance it forms a well furnished bush about a foot in height, the shoots being of a semi-woody character clothed with small green leaves. The heads of flowers are borne twenty or so together on racemes 6 inches long. The corolla is white and curiously twisted. A touch of colour is given by the reddish purple stamens, which are conspicuously placed. Although not a plant that a trade grower would be likely to make a fortune with, the amateur who goes in for a varied collection of plants would find it worth a place. An ordinary greenhouse will be found suitable for its successful cultivation.—**W. D.**

— **METHEOLOGICAL OBSERVATIONS AT CHISWICK.**—Taken in the Royal Horticultural Society's Gardens—height, above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 9 A.M.			
1899.										
December.		Dry Bulb.	Wet Bulb.	Highest	Lowest.		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
Sunday 17	S. E.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday 18	N. N. E.	37.8	36.2	36.5	26.7	—	36.3	41.5	46.0	21.1
Tuesday 19	S. E.	36.3	35.8	36.6	27.6	—	36.2	41.1	46.0	25.0
Wednesday 20	S. E.	33.3	32.9	39.3	33.0	—	36.7	40.9	46.3	25.4
Thursday 21	E. N. E.	37.3	36.5	39.3	29.7	—	36.9	41.1	46.1	23.5
Friday 22	S. S. E.	36.9	35.1	37.8	36.5	—	38.1	41.1	45.9	33.9
Saturday 23	N. N. E.	33.9	33.6	37.3	33.2	0.06	38.3	41.2	45.7	32.2
		34.6	34.0	42.0	33.7	0.04	38.4	41.5	45.7	27.7
MEANS ..		35.7	34.9	38.8	31.5	Total 0.10	37.3	41.2	46.2	27.1

A very foggy, dark week, some days scarcely any light; small quantities of rain fell on the 22nd and 23rd.

APPLES.

VENUS PIPPIN.

At the meeting of the Royal Horticultural Society held in the Drill Hall on September 12th last, Mr. W. J. Godfrey, Exmouth, staged Apple Venus Pippin (fig. 99), to which the Fruit Committee recommended an award of merit. It is a handsome, symmetrical fruit rather over medium size. The flesh is very tender, sweet, and of a most agreeable flavour. The eye is half open, with broad recurving segments, while the long stalk is inserted in a shallow cavity. The colour is a uniform pale lemon yellow. Relative to the variety Mr. Godfrey writes:—"It is a variety that generally ripens about the end of August, but this season, hot and dry though it has been, the fruit has matured later. 'Venus Pippin,' but more commonly 'Plumdevity,' has been known in these parts for a number of years, and has been a great favourite. It was about the first Apple I knew as a lad. It seems very strange that it has not been known better, as the tree is a sure cropper in all soils."

"TOO LARGE FOR DESSERT."

THIS is an expression one often hears nowadays applied to fine large eating Apples, and somewhere lately (I thought it was in the R.H.S. instructions for show Apples, but cannot find it), I read that Blenheim Oranges when shown as "dessert" Apples should not be

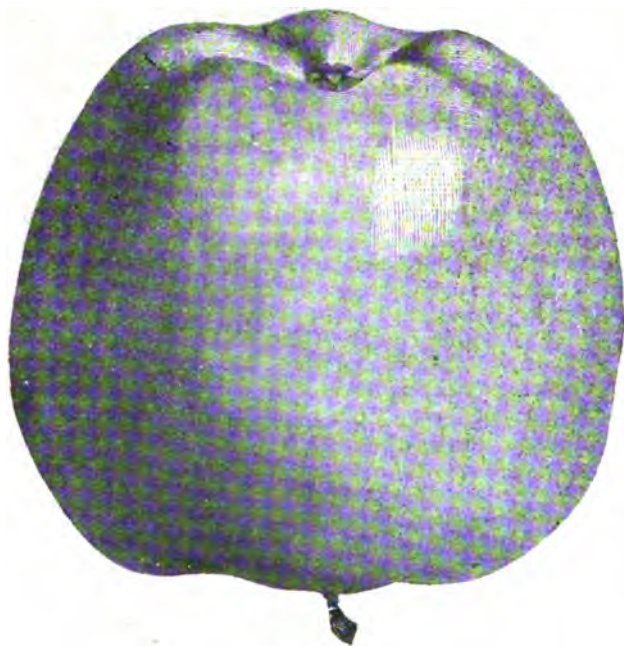


FIG. 99.—APPLE VENUS PIPPIN.

above medium size—in fact I understood that size above the medium would be a demerit, if not a disqualification. As I do not quite follow the reasoning in this matter, I should like to say a word or two on the other side.

At our local show the Apples shown as "dessert" varieties have generally been very small—King of the Pippins, and the like—and I have thought sometimes I should want my spectacles, a good dissecting knife, and plenty of leisure, in order to get much edible Apple, apart from the peel and core, out of a plateful of them. Very good? Fine flavour? Oh, yes, I daresay. So are a jack snipe and a brown shrimp, neither of which would be the worse for being a good bit bigger, and those who are not skilful carvers and manipulators sometimes think the morsels you get at last are not worth the trouble. Dick Swiveller, who considered himself no mean authority, affirmed that beer "couldn't be tasted in a sip," and, fond as I am of a good Apple, I can get very little comfort out of one, where I cannot obtain a reasonable mouthful free of core.

Let not anyone think from this that I am in favour of size at the expense of quality and flavour. Certainly not. For instance, if anyone can tell me where I can get Brussels Sprout seed that will yield me the small, compact, firm, well flavoured little knobs I can remember twenty or thirty years ago, I shall be much obliged to him. No! What I object to is that size by itself should be a demerit or disqualification in spite of quality and flavour.

It will be said perhaps, "It is only a matter of practical convenience. At dessert guests will not take large Apples, because they

are more than they care to eat. That is the only reason, but a sufficient one as far as it goes." My answer would be: First of all, that as far as I am concerned, though I eat a good many Apples, "dessert" after dinner is about the last time when I should take one; almost any other time of the day would suit me better. Next, that I do not remember a similar limit being placed on Pears; and surely Pitmaston Duchess and others are often a great deal bigger than any eating Apples, except perhaps Emperor Alexander. In my own family there is a basket of Apples always on the sideboard, and when they are large a budding knife is by them, the ivory handle of which will split, not cut them, with very little trouble; and if a half is left in the basket, it does not remain there long. Why should there not be such a neat implement in the Apple dish?

And lastly, I would point out that of two Apples, one double the size of the other, a half of the big one is a very much more satisfactory item than the whole of the small one—not only because there is a larger proportion of free edible flesh, but also because it is easier to get at, whether decorously assayed with silver knife and fork at "dessert," or carried along to munch at your morning stroll after breakfast.—W. R. RAILLEN.

THE HOME OF THE ECKLINVILLE.

MR. ALEXANDER DICKSON having incidentally mentioned that the above Apple was raised at Rubane House, Kircubbin, it was pointed out to him that the late Dr. Hogg, who was usually very careful in his references, attributed the raising of the popular variety to a Scottish gardener, Mr. Logan, at Ecklinville, and hence the name of the Apple. Mr. Dickson has obligingly explained the matter as follows:—

"Rubane House is a new name for Ecklinville, the old home of the Ecklins, who are now replaced in it by a Presbyterian clergyman. Old Mr. Logan was a great friend of the writer's grandfather. We have still against a wall the oldest living tree of Logan's Seedling, which was raised from the same fruit as Ecklinville." There is thus no conflict in the statements after all.

SOIL INFLUENCE ON APPLES.

As affording evidence that the above useful Apple does not succeed equally well on all soils, one of the most successful growers of Apples generally has found it desirable to cut down his Ecklinville trees and graft them with other varieties that pay him better. The soil is strong loam on chalk. A still larger and equally successful Apple grower has during the past season found Ecklinville his most profitable variety, the soil in this case being rather light loam on sandstone.

SPLITTING OF APPLES.

I found a few, and only a few, of such soft-fleshed and thin-skinned Apples as Peasgood's Nonesuch, Emperor Alexander, and one or two others to split as has been referred to. But in a cool room, where there was neither firing nor gas in combustion, and the air was perfectly pure, the splitting seems to have been due to considerable sap production in the fruits under the influence of the great autumn warmth, and then when the fruits had been some time stored in a cool place the sap hardened, and in doing so like water under cold, distended, and thus brought about the splitting seen. No ordinarily good keepers with thick skins were affected. Those fruits that did split were found to be quite mealy, thus showing that a lower temperature had effected a material change in the flesh. But this not uninteresting fact leads naturally to the inquiry, how far a crop of very large, and because so large necessarily soft sappy fruit, is more profitable or desirable than is a crop of fruits of fair average size and of much firmer flesh.

Many of these soft-fleshed Apples are worth little for any purpose, having parted with flavour and juiciness by the middle of December, whilst other fruits smaller and firmer will keep sound and juicy until the end of March. Do we not rather over-worship size in Apples, at the expense of quality and keeping properties? I think so. But on our show tables all the finer fruits take precedence of those of more solid flesh, because not so large. How useful would be a few classes for say six dishes of Apples in January and each month down to May, good keeping quality with cleanness and relative size to be the prominent features in awarding prizes.—A. D.

CARNATIONS AT SUNDRIDGE PARK.

Of present day flowers none seems to show greater promise for the future than Malmesdon Carnations, whose vogue or popularity is now most distinctly on the up grade. In establishments on all hands we find collections of greater or lesser pretensions as regards size, and cultivated with varying degrees of success. That their requirements are daily becoming better understood cannot be doubted, and it is

sincerely to be hoped that the day is not far distant when they will be universally grown successfully in this country. The flowers, when well developed, have a charm entirely their own, and meet with an appreciation that is accorded to few other kinds in general use. Then they have the further most desirable attribute of flowering practically at all seasons of the year, though the months of April, May, and June show perhaps the greatest abundance.

One of the best examples of success with Malmaison Carnations to be found within the immediate neighbourhood of the metropolis is that in the gardens of Sundridge Park, where Mr. Tapper grows them for Sir Samuel and Lady Scott. There may be seen a collection approaching to 2000 plants, young and old, and in the most excellent condition. During the zenith of the beauty of the plants Mr. W. Collings of West Street, Bromley, an amateur, took a photograph of the house, and this we are now enabled to reproduce (fig. 100). As may be seen in the excellent picture flowers are numerous, and buds of various stages abundant. As it was impossible for a visit to be paid to see the flowers themselves, it was decided to make a journey to inspect the plants that had produced them, and those which were

atmosphere is demonstrated by the stems at the base, which in a dry air would become hard, remaining rather softer, and pushing strong breaks from every joint.

One of the commonest troubles experienced by Malmaison growers almost everywhere comes in the form of a rusty fungus which, allowed to have its run, completely spoils the plants. To guard against such a disaster, Mr. Tapper resorts to hand-picking, and by taking every diseased leaf and consigning it immediately to the flames the pest is kept well in hand. Of course if the disease reached a very bad stage, this would become a tedious operation, but this is never permitted. The enemy is usually at its worst during November and December, but we only found one leaf affected a week ago. The compost employed for the plants consists of seven parts of loam, three each of leaf mould, Mushroom bed refuse and coarse sand, with a few small pieces of charcoal and a little Clay's fertiliser. In this the plants make sturdy growth, better than which no one need desire, as it invariably produces blooms of excellent size, substance, and colour.

The two-year-old plants are now daily producing a few flowers, which, though they have not the size of those coming in the spring,



FIG. 100.—MALMAISON CARNATIONS AT SUNDRIDGE PARK.

being brought along to form the groundwork of next season's display. To some persons, perhaps, the flowers only appeal; but to others healthy plants provide a theme for conversation and abundant material for admiration.

The major portion of the present stock is housed in the structure shown in the photograph, the whole of the central tiered-stage and the flat side stages being occupied. Some of the plants are in 8 and 10-inch pots, but the vast majority are in 32's, in which they were placed direct from the layers. Most growers recommend the employment of smaller pots, in fact Mr. Tapper strongly advocates the system, though he finds it impossible to adopt it. Time and space must be considered, and they necessitate the use of large pots, and cultivators will understand how careful must be the watering when there is such an amount of soil destitute of roots, or it will become sour. For a week after potting the plants are lightly dewed daily, but afterwards syringing among the pots only is advocated. Mr. Tapper largely ascribes his success to allowing the plants to practically reach the flagging point at this period of the year before giving water. Instead of soil watering being constantly resorted to the atmosphere is kept slightly moist by damping the paths and other surfaces at intervals varying with the external conditions. The desirability of the moist

are yet very good and immensely appreciated when choice flowers are scarce. These Carnations are great favourites with Sir Samuel and Lady Scott, indeed their greatest desire is to have a splendid collection. They want the flowers before all others, and it is fortunate that their grower is so well able to meet these requirements.

In addition to the Malmaisons Mr. Tapper grows some hundreds of tree and border varieties, and many of the former are now flowering beautifully. These are from cuttings rooted in January in a temperature of 60°. These eventually find their way through the various sizes of pots and cold frame with subsequent outdoor treatment, and are at present handsome plants that reflect the utmost credit on the grower. Mr. Tapper is most careful in the use of manure for all Carnations, but has this year tried Mr. Willis's Carnation mixture with marked success. The following varieties are most strongly recommended—J. P. Rugus, Whipper In, Mrs. Leopold de Rothschild, Miss M. Godfrey, President Carnot, Irma, Duchess of Devonshire, Mrs. Llewellyn, and Sir Rivers Wilson.

Of the general stock of plants, the hardy and indoor fruits, the pleasure grounds, and the splendid park in which Sundridge lies, nothing can now be written, though it is hoped that at some future time notes and illustrations may be given.—H. J. WRIGHT.



ROSES IN POTS.

THE most convenient method of growing Roses under glass is to cultivate them in pots, for unless a structure be devoted entirely to these flowers there is difficulty in keeping the Roses constantly free from insect pests, and with other plants growing with them a proper ripening of the wood in autumn is not easily obtained. In pots they may be turned out in the open air, thereby giving the plants their proper rest, as well as providing room for other subjects when the blooms are past. The best time to do any necessary potting—that is in the case of established plants—is August. That time being past we would not advise meddling with the roots now. Our plants are in the open, but the pots are plunged in leaves as a preventive from severe frost. Each pot is stood on a tile to guard against the damage of worms.

About the new year we deal with the plants by at first taking away all sticks, and pruning. How close the latter should be done is somewhat guided by two things, whether we require a quantity of blooms or a few of large size. In the latter case pruning may be hard, that is, only an eye or two of each shoot, and few of these may be left, but in the former we leave 6 inches or more of all the better grown branches, and remove the weaker ones altogether. Generally, the Tea Roses require the least pruning, and the rule of plants outside is followed; the stronger the plant the more growth should be left. Tie the principal branches to sticks, wash the pots, and then put them under glass. Like Vines, Roses should be brought into new growth gradually. A vinery or Peach house with the contents starting is just the place for the Roses: the syringing and damping necessary to the one are beneficial to the other.

Water at the roots should be avoided for some time. The moist atmosphere and sap stored is sufficient until the shoots are about 2 inches long. If the roots be soddened, after growth will not be satisfactory. Guard against draughts. Front air is in the early stages hurtful to Vines, and the Roses will not require it. Keep the latter away from the hot-water pipes. A dry air brings red spider as well as aphids, and checks from hot to cold bring mildew. These three are the pests most troublesome in regard to Roses in pots. As the leaves develop give the plants ample room, and with this development the need of water at the roots will go on in a like proportion. It is not easy, in fact, to overdo Roses in this matter when leafage is abundant. Tie-out the shoots as they grow, and from the time of the appearance of flower buds water with stimulants. Weak soot-water is excellent. This may also be syringed on to the leaves in a clear state. It gives a dark, healthy green colour to them, as well as acting against the attacks of green fly.

Remove the Roses to another structure if at all shaded by the leaves of other plants, because they require all the light possible. The growth when past its tender stages is not so likely to become mildewed; more air, therefore may be allowed. Stimulants besides soot water are given to develop the blooms to their utmost extent. No one manure is recommended. All gardeners have a fancy in this respect, but if we can get liquid from the farmyard we are satisfied with perhaps an occasional pinch of guano. Shade when in bloom will enhance the colour of the flowers as well as tend, of course, to their lasting.

After blooming we stand the Roses in the open to ripen the growths, and about August do what potting is required. A mistake is often made with Roses as with other plants that have been forced—that is, they are turned out of the greenhouse in some out-of-the-way corner and neglected. They must have proper attention in the matter of room and of water; then there is a chance of their usefulness being extended over a number of years. In potting Roses we avoid big shifts. Just one size larger pot than the one a plant has been growing in is best. Soil suitable is a heavy loam, with bones added; this is rammed firmly in the pots. We prefer to use less lasting manures in the form of liquids when the plants are growing freely.

Most Roses succeed as pot plants, but some better than others, and those we enumerate are excellent for this mode of culture:—Augustine Guinoisseau, Baroness Rothschild, Captain Hayward, Caroline Testout, Dr. Andry, Fisher Holmes, Général Jacqueminot, Jeanie Dickson, Kaiserin Augusta Victoria, La France, Madame Victor Verdier, Merveille de Lyon, Mrs. Sharran Crawford, Mrs. John Laing, Prince Arthur, Prince Camille de Rohan, Ulrich Brunner, and Victor Hugo.

With one or two exceptions the above are Hybrid Perpetuals which provide flowers of crimson and high coloured shades. Of Teas, with their delightful perfume and delicate tints, the following are

good:—Anna Olivier, Bridesmaid, Catherine Mermet, Ernest Metz, Etoile de Lyon, Innocente Pirola, Isabella Sprunt, Maman Cochet, Madame Falcot, Madame Hoste, Madame Lambard, Madame de Watteville, Marie Van Houtte, Niphotos, Perle des Jardins, Rubens, Souvenir de S. A. Prince, Souvenir d'un Ami, Sunset, and The Bride.—H. S.

POPPY ANEMONES.

THE fortunes of flowers, like those of men and women, have their ebbs and flows. For years they may be favourites of the public; then the reaction comes, and they are in the cold shades of unmerited neglect. At present the Anemone, though not absolutely neglected, is comparatively little grown. It has its admirers, but these are few in proportion to the numbers who are attached to other flowers. Why this is so is not easy to say. Its beauty is great; either in the garden or as a cut flower it lends itself to the adornment of our homes. The Poppy Anemone, as *A. coronaria* is called, is a flower which has connected with it associations and superstitions of which we have no space to tell. Our pleasant task it is to speak of the flower from its horticultural aspect; to tell of its value, and how it can best be grown.

For a considerable time in the early half of this century, and towards the middle of the same period, the Anemone had many worshippers. The age was one of florists' flowers, and the Poppy Anemone shared with the *Ranunculus* the devoted care of the florists of the time. It was, however, the double varieties to which they gave up their time, and on which they freely lavished their care. Times have changed, and taste with them. The double flowers have proved too lumpy for our ideas, and they are now little grown. It is to the single flowers that we must mainly look if we are to have a renaissance of the Crown or Poppy Anemone in the future. The writer has loved them all his gardening days, and he gains much pleasure from their brilliant flowers. It is not easy to speak restrainedly of the beauty of the flowers. Their form is beautiful in its cup-like shape, together with the central boss which gives it the needed finish. The colours are so varied that one can hardly exhaust their tints, shades, and combinations. In not many plants have we so much variety in this respect. Almost pure whites, creams, blushes, pinks, scarlets, crimsons, purples, and blues in much variety occur, together with mottled and striped blooms. To look upon a bed when its flowers are open in the sun of early summer is to behold a feast of floral beauty whose graces are heightened by the charms of the pretty finely divided foliage which accompanies the bloom. It seems needless to say more in praise of the Poppy Anemone.

As already alluded to, the flowers are mostly of cup-like form; but the taste of recent years has set in in favour of blooms of more informal outline. Impetus has been given to this change by the loveliness and effect of what is known as the "St. Brigid" strain, which we owe to Mrs. Lawrenson. The flowers produced by this strain are of great beauty and size. It is no exaggeration to say that the St. Brigid Anemones surpass all others in their value in the garden or, when cut, for the decoration of the house. They last long when cut, and are thus invaluable even at a time when flowers are by no means scarce.

One advantage the Poppy Anemones have over some other flowers is that they can be had in bloom for a great portion of the year by keeping the tubers in dry sand until required and then planting them at intervals so as to give a succession of flowers. Planting should begin in October; this month and the end of January being the times preferred by the florists who made a speciality of the Anemone.

For the purpose of its cultivation a good loamy soil, not of a clayey nature, will answer well, but one which is rather sandy will suit equally well if enriched with decayed cow manure. The tubers ought to be placed with the crowns about 2 inches below the surface. It is sometimes difficult to distinguish the crown of the tuber. It forms a knob-like protuberance, but old tubers or those of small size do not always exhibit this clearly. Those in doubt will be safe in placing the tubers sideways. Florists spread some decayed leaves over the beds to keep off frost, but this is hardly necessary for ordinary purposes.

While the Anemone is a true perennial it is apt to degenerate, especially if left in the ground after the leaves have withered. It is therefore advisable in the case of the single varieties to raise a fresh stock from seeds occasionally. There is no mystery attached to the process, and detail of so simple an operation is hardly needed. It may be said, however, that seeds should be sown in spring or as soon as ripe. The seed ought to be rubbed among dry sand before sowing to separate it. Seed of the St. Brigid Anemones sown in spring will often produce flowers the same year. One would advise the grower who has secured a good strain of Anemones to save his own seed, and, in doing so, to be careful only to take it from the best plants. The

strain will not only be kept from degeneration but will continue to improve.

There are other good strains of Poppy Anemones besides that recommended. That known as the Victoria Giant is a capital one. The Chrysanthemum-flowered Anemones are also deservedly favourites with some, but tubers of these should be purchased. Those whom these notes may induce to grow these beautiful flowers are not likely to regret the little care they require in return for their plentiful harvest of beautiful flowers.—S. ARNOTT.

GREENHOUSE CLIMBERS.

THE cultivation of suitable plants as climbers in greenhouses and conservatories is a phase of gardening which does not receive the attention it should in the case of many structures. It is frequently the case that the house may be convenient for training the growths, but the plants must be grown in pots, tubs or boxes, there being no provision for planting out. The growth of climbers is always more vigorous and free when the roots have the run of a border, the only disadvantage being that the plants are not portable, but are necessarily fixtures. When grown in pots, tubs or boxes, these and the plants they contain may be moved outside for cleansing the growths or ripening the wood.

Many climbing plants furnish bare and lofty positions with graceful growth, and some produce flowers as well. *Asparagus tenuissimus* is adapted for a moist shady position, and does well in a large pot in a compost of peat, loam, leaf soil, and sand. The growths all start from the base, and grow rapidly under good conditions, branching into delicate and finely divided foliage, which when cut is very decorative and lasting. The shoots should be tied lightly to a trellis. Portions or whole lengths of growth may be cut as necessary without spoiling the remainder. It is propagated by division of the roots in March and by seed.

Clematis indivisa lobata is excellent for growing as a greenhouse climber. It produces a large quantity of white flowers in spring and early summer. It must have a sunny position, and will succeed if planted in a large pot, not being such a vigorous grower as to need unlimited rooting space. A good compost consists of two parts of loam, one part of leaf soil, one part of decayed manure and sand. Train the growths on wires on the roof of the greenhouse. The principal pruning may be done after flowering, cutting out the flowering growths, and thinning the other shoots. Afford the plants abundance of water during growth, also liquid manure when well established.

Ficus repens is extremely useful, though only a foliage plant. It is splendid for covering a wall, whether of cement or bricks. It will also cling to woodwork, and does so as tenaciously as Ivy or Virginia Creeper. Plant in a border of almost any kind of soil, and it will succeed. The foliage forms a mass of dense green, but the growing tips are brown in colour. After first nailing the growths no further trouble is required. Water freely in summer, and occasionally use the syringe. It is a plant which does not soon suffer from dryness, and is admirable for furnishing out of the way corners as well as conspicuous places. There is a variety with smaller leaves, which may be grown as a contrast.

Habrothamnus elegans is a good plant for training on the roof or wall of a conservatory. It produces annually long slender shoots, which may be trained to occupy the space, and shortened in spring after the flowering is over, thinning out useless wood. Plenty more will be produced by the summer growth. The flowers are purplish red. It thrives best when planted out, but succeeds in more restricted confines, such as a large box or pot. Peat, loam, and sand form a good compost. Afford ample water, as the growths are subject to green fly if the plant is dry at the roots. This *Habrothamnus* makes an admirable pillar plant, and might be grown on a wire arch in a conservatory.

Lapagerias take rank as among the choicest of climbers. The flowers are superb, and have the appearance of white and red wax balls hanging gracefully from slender stems furnished with dark green leathery foliage. A semi-shady position should be chosen, as the fierce midday sun is rather trying for the plants growing under a hot roof. If planted in a border this must be well made, and drained efficiently. A large deep box, made of strong wood or slate so as to last some time, is suitable. It may be placed near hot-water pipes in a greenhouse. The new growths start from the base, and form a delicate morsel for snails, so a protection of cotton wool is usually fixed a few inches below the growing point to prevent injury from this source. Good fibrous peat and sandy loam mixed with charcoal and broken bricks, adding also a little coarse sand, form a most suitable compost. Plenty of water is required in summer, but less in winter, maintaining the compost just moist. Both the red variety, *L. rosea*, and the white, *L. alba*, should be grown, allowing the growths to intermingle.

Roses are indispensable climbers if they can be grown in a sunny well-ventilated structure. The best Roses to cultivate as climbers in greenhouses are *Maréchal Niel*, *W. A. Richardson* (*Noisettes*), *Gloire de Dijon*, *Cheshunt Hybrid*, *Belle Lyonnaise*, *Climbing Niphetos*, *Perle des Jardins*, and *Climbing Devonensis* (*Teas*). They should be planted in good material, whether in a border or established in pots or boxes. Substantial turfy loam with one-fourth of decayed manure and a little bonemeal will be found suitable. Train the growths on wires under the roof or on a back wall, but the growth must receive plenty of light. Remove useless wood after flowering, shortening back the shoots of *Maréchal Niel* to within a foot of their base for encouraging the production of long growths. The other Roses mentioned should have weak wood removed and all strong young growths retained, though the plants will make further growths of this character in the course of the summer.

Attention must be given when the wood has been produced to freely ventilate and ripen it. Plants established in pots and boxes may in most cases be taken out in the open air to ripen. This is the advantage connected with portable receptacles. Plants under glass which cannot be moved may be kept rather drier at the roots, and the doors and lights of the house kept as wide open as possible to complete the ripening, for on this depends the freedom with which the plants will eventually bloom. From every bud on the ripened growth flowers ought to be produced. The extreme tips may be cut away, as they will not be ripe enough to retain.—E. D. S.

YUCCAS.

IN many gardens there is a lack of plants of distinct effect. There is often a monotonous sameness, which might be relieved by the judicious use of such a noble plant as the Yucca. It has been justly said that it has grace and elegance, although among the stiffest looking of our garden plants. This is proved by the admiration it often calls forth in gardens where it is used with judgment.

Yuccas are adapted for several positions. In groups on grass they are very effective; for growing in tubs they have few rivals of the same habit; in the flower border or on the large rock garden they may be used with great advantage, while the variegated varieties and the more tender species can be made use of in the conservatory. In any of these positions their fine leaves and flowers add a decidedly ornamental effect, not easily given by any other hardy plant.

The cultivation of the greater number of the Yuccas presents few difficulties. They do best in good soils, and those of a light nature are not so suitable for bringing them to their perfect beauty and stateliness. I prefer to plant in spring, and for this object healthy young plants should be selected rather than older specimens. In a few years the young plants should equal or surpass in size those removed when large.

The most reliable of the Yuccas is perhaps *Y. filamentosa*, a handsome free-flowering plant, whose merits are not easily done justice to. When well grown and in bloom it can be seen up to 6 feet high. When a large plant reaches this stature it is very imposing. This height is sometimes much exceeded by the variety named *maxima*. Unlike most of the others, *Y. filamentosa* will thrive well on sandy soil. It is a native of North America. The variegated form, which is often seen under glass, is more tender than the type.

Yucca gloriosa is another well-known plant, one, too, which well deserves the admiration it receives when in bloom. Its great stems, 7 or more feet in height, with its great panicles of almost white flowers, are of the most impressive aspect. This noble species does not bloom so freely as that already named, but it is so fine at any season that this failing may be condoned, and we may rest satisfied with the effect produced by its foliage in gardens where it seldom or never blooms. It requires a stronger soil than the foregoing.

Perhaps even better than either *Y. filamentosa* or *Y. gloriosa*, although not so noble as the latter, is *Y. flaccida*, a fine plant not unlike *Y. filamentosa*, but not growing so tall, its height being 3 or 4 feet. The flowers are in panicles, and the leaves are distinctly margined with filaments, after the style of those of *Y. filamentosa*, but not similar.

One seldom sees any specimens of *Y. glaucescens*, although it is a fine variety, and worth growing for its sea-green leaves and yellowish-green flowers slightly tinged with pink. It grows about 4 feet high.

Yucca recurvifolia is met with also under the names of *recurva* and *pendula*. It is also said to pass under the name of *Y. japonica*. This species is very desirable on account of the fine habit of its foliage when the plants have reached some height. The upper leaves stand almost upright, looking like a centre-piece of sharp spines, while the lower recurve and sweep the soil with their points. It grows about 6 feet high. There seems to be some confusion regarding this plant, as the "Index Kewensis" gives it as synonymous with *Y. gloriosa*,

but the "Hand-list of Trees and Shrubs" names it as a distinct species. As grown in gardens it appears to be distinct.

Yucca aloifolia is (principally by its variegated varieties) well known in glass structures. The green-leaved or typical plant is worth growing in places which are not too cold, and where it can receive some shelter. Its hardiness is affirmed by some to be beyond doubt, but one would hesitate to agree with this so far as it refers to cold localities.

There are a good many other *Yuccas*, among which may be named *Y. Whipplei*, a good hardy plant; *Y. angustifolia*, the dwarfest, which is seldom more than 3 feet in height; and *Y. Treeculana*, which is of noble habit and soon grows to a great size. The individual flowers of the *Yuccas* bear a considerable resemblance to each other, and are generally of a yellowish white colour, so that I have considered it needless to mention them in detail.

It may be added that seeds of several species are obtainable, and that they are easily raised from seeds if these are fresh. They ought to be sown and grown under glass. A needful reminder is that slugs are fond of reedling *Yuccas*. Much more might be said regarding the value and uses of these plants, but the notes given may serve to bring them before those desiring plants of like habit.—A.

CINERARIA FLY, OR MARGUERITE FLY (*PHYTOMYZA NIGRICORNIS*).

It was noticed some years back that many of the Marguerite and Cineraria plants in the gardens round Wellington were marked, as though tiny snails had crawled over them, leaving white tracks behind. A further examination, however, showed that the damage was not on the surface of the leaves, but had been caused by a small grub, or, rather, numerous small grubs, tunnelling between the two surfaces, and eating out the flesh in all directions. Later on these grubs turned to chrysalids, and from them emerged tiny flies, which to the unaided eye look black, but which the microscope shows are somewhat highly coloured.

The insect subsequently greatly extended its field of operations, until there is scarcely a garden, or indeed a roadside, where it may not be seen. Cineraria growers suffer most from its depredations. The eggs are usually laid on the under side of the leaf, but at times the females seem careless, and place them on either upper or lower surface, and sometimes on the stem.

The period elapsing before the eggs hatch varies with the position of the plant, and apparently is longer or shorter according to the amount of light and warmth received. Some, in one experimental shade, hatched five days after being laid, and others were double that time. Shortly after the young grubs appear, the leaves, if carefully examined, will be found to have small dots where the grubs have eaten through the epidermis, and from these dots the mines will extend in all directions, crossing and recrossing till in many cases nothing but the cuticle remains. The leaves, of course, soon wither and die. Before this occurs the grubs have reached maturity, eaten close to the surface, and entered the chrysalis state. The mines are of course in places partly filled with the excreta of the grubs, but at various points will be seen larger objects, some greenish, others brown, and others black. These are the chrysalids, and in favourable weather the flies will emerge in about a week after the chrysalids have assumed the last-mentioned colour.

The above cuts will give a good idea of the form of both grub and fly. The latter will well repay the trouble of microscopic examination. The colour of the body varies from rich black to slate colour; the head is ochreous, with a greenish-yellow spot on the crown. The poisers and thighs are yellowish, and the wonderfully iridescent wings make this insect a most beautiful object under a moderate power.

It is a species of *Phytomyza* (evidently closely allied to *P. nigricornis*), a genus the members of which are notorious for disfiguring garden plants.

[Since the above was written, I have received from Mr. C. French, Government Entomologist, Victoria, a note in which he says that specimens sent by me have been submitted to Mr. Skuse, who pronounces them undoubtedly *P. nigricornis*.]

The difficulties encountered in fighting this pest would not be so great were its attacks confined to garden plants—namely, Cinerarias, Peas and Chrysanthemums—but unfortunately it is found on a number of wild plants also. I have reared specimens from Groundsel, Melilotus, and the recently-introduced Noogora burr, while the common Sow-Thistle or Rauriki is everywhere attacked, and seems to be the favourite food plant.

I have taken flies reared on Cinerarias and placed some in a breeding cage with Rauriki, and others in a separate cage with Cineraria. The progeny of the former thrive much better than the others.

The insects being miners, it is very difficult to get at them when

once the plant is attacked; defensive rather than offensive measures must therefore be employed.

In greenhouses the plants should be carefully watched at the commencement of an attack, and all affected leaves picked off and burned. If a plant is set in a tub of water, so that the leaves are immersed, and left there for some hours, it will be found that many of the grubs have come to the entrance of the mines and been drowned. This, of course, will not kill the chrysalids.

The above plan cannot be adopted with outdoor plants, but I have proved experimentally that the female will not lay her eggs on a plant which has been carefully sprayed with arsenical spray or with tar water ($\frac{1}{2}$ lb. coal tar, boiled in 1 gallon of water, and, when boiled for some time, diluted with 50 gallons fresh water. This must be stirred till well mixed; it is then ready for use. Tar is obnoxious to

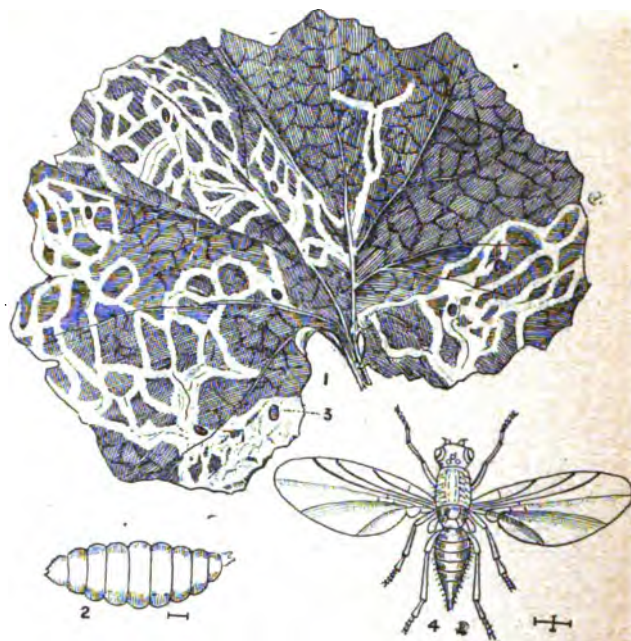


FIG. 101.—CINERARIA OR MARGUERITE FLY (*PHYTOMYZA NIGRICORNIS*).

1, Leaf of Cineraria, showing damage done by the mining of the larva (from nature); 2, Grub, magnified; 3, Chrysalis, natural size; 4, Fly, magnified. (2 and 4 after Westwood).

all insects, and they will get away from it if possible), preferring to deposit them on the glass sides of the breeding cage. This remedy has been thoroughly tested, and has proved quite successful.

This spraying will certainly need repeating from time to time, as the insect is a very free breeder. Indeed, I have some specimens of the third generation now in breeding cages.

In Europe there is a small ichneumon fly which helps to keep *P. nigricornis* in check. This has now reached the colony, but is not a sufficiently effective check to be relied on solely.—[*New Zealand Department of Agriculture. Leaflets for Gardeners and Fruit Growers, No. 4.*]

LATE SPRING PLANTING.

For all classes of fruit and other deciduous trees there is no question whatever that early autumn planting or just as the leaves are turning preparatory to falling is the best of all times to transplant. The soil has still much of latent summer heat in it, and usually rain will soon follow in sufficient quantity to make planting easy even on heavy soils by the middle of October. The roots if carefully trimmed start again, and the trees before midwinter will be semi-established.

But it is not possible to get all planting done in autumn, and as a makeshift spring planting has to take its place. To make the best of a poor job this should be left until root action has again commenced, and the buds on the trees are beginning to move. This will be found much more satisfactory than planting in early spring, and I have repeatedly proved the truth of this. I planted during the spring of 1899 a large number of deciduous shrubs in an exposed border, when the growth was very forward, and flower buds in some cases were showing. *Acers*, *Rubus*, *Prunus*, *Pyrus*, *Deutzias*, *Lilacs* *Cytisus* and many others were included, and it was very successful hardly a plant perishing. Had these been planted a month earlier there would have been a different tale to tell.—H. R. R.

NEPENTHES.

THESE are most interesting and curious plants. To the average gardener, perhaps, they do not appear attractive beyond that of ordinary plants; but, when a house is devoted to them, even if this be only a small one, they arrest an immediate interest, and create an impression more or less lasting. Such is the experience of many persons; and I must confess that *Nepenthes*, as I have generally met with them in private gardens, made only a slight impression on my mind.

No collection that I have ever seen in a private garden was so rich in variety, so well displayed, or so well cultivated, taken collectively, as that which occupies one of the many houses in the Syon Gardens. Here one division is almost exclusively set apart for them, suspended from the roof, and the wealth of "pitchers" was such that no one could fail to be converted by their varied characters and healthy growth. Quite an exhaustive list of kinds are here. A bed of Ferns beneath these suspended basket-grown *Nepenthes* presents a cool aspect, and the most natural foil that artificial surroundings can furnish.

There are at Syon no less than twenty-six different named sorts, the best of which are perhaps *Masteriana* and *Veitchi*. Other kinds that might be mentioned are *amabilis*, *Burkei*, *B. excellens*, *cineta*, *coccinea*, *Courti*, *Curtisi* *superba*, *Dicksoniana*, *distillatoria*, *Dominiana*, *Excelsior*, *Findleyana*, *Hookeriana*, *H. elongata*, *hybrida*, *intermedia*, *lewis*, *Lawrenceana*, *Morganiana*, *Northiana*, *Ratcliffeana* and *sanguinea*. The enumeration of these makes it clear that the collection is not only extensive but of some considerable value, for they are not tiny samples but good sized and vigorous specimens.

The house, a lean-to, if my memory serves me rightly, has a shady aspect with a sunk floor, so that the conditions for maintaining a natural humidity and equable temperature are afforded without any undue effort. Mr. Wythes deserves much credit for the excellence of the collection as a whole, and particularly for the success which has attended his labours as a hybridist.—W. S., *Road Ashton*.

THE ROYAL HORTICULTURAL SOCIETY OF IRELAND.

THE usual annual meeting of the above Society took place on Tuesday, December 20th. The chair was occupied by Lord Ardilaun, President. The meeting was not too well attended. The Secretary, Mr. W. H. Hillyard, read the usual report, wherein he stated that the number and the quality of the exhibits had been well maintained, still the receipts showed a falling off from those of previous years. The spring display especially suffered. The membership shows a slow but steady increase, and the necessity for redoubling the efforts to increase it was spoken of. During the present year four of the challenge cups have been won outright. The thanks of the Council are heartily given to the Lord Lieutenant and Countess Cadogan for their kindness in attending and opening their shows, also to Lords Iveagh and Ardilaun and several private donors for their generous gifts of money prizes. The statement of accounts was read, which showed a falling off of £52 8s. 11d.

Mr. Bewley desired to move that a new class for Roses, the class being for "Teas" and "Noisettes," a stand of eighteen blooms, and not more than two of any variety, and the cup to be for the best, with money prizes added by the Society to be formed. A discussion ensued as to the advisability of starting such a class. The meeting, however, ultimately agreed to recommend to the Council the following motion, "That the class as stated in the resolution be formed."

The Chairman (Lord Ardilaun) in moving the adoption of the report, said the Horticultural Society to his mind seemed satisfactory. He trusted the members would do all they could to increase the membership, and thereby extend the horizon of general interest in the ancient, interesting, and engrossing employment of gardening. Mr. Ramsay seconded the motion, which was adopted without demur. The retiring members of the Council were re-elected without opposition.—A. O'NEILL.



FRUIT FORCING.

Vines.—*Earliest Forced in Pots.*—The Vines started early in November in bottom heat are making rapid progress, growth having been made and root action free in consequence of the leaf development, which should be encouraged by top-dressings of artificial manures and supplies of water not less in temperature than that of the bed. The fermenting materials must not be allowed to decline in heat at this critical stage, augmenting them as required to maintain a temperature of 70° to 75° about the pots. It is a good plan to keep a heap of leaves and stable litter in reserve, from which supplies may be drawn as required. Particular attention must be given to the ventilation, avoiding chills, such as those resulting from cold currents of air and supplying the Vines with cold water. Disbud and tie down before the shoots touch the glass, not being in too great a hurry in stopping or restricting to a certain

number of joints beyond the bunch where there is room. Avoid overcrowding the foliage and overcropping by removing superfluous bunches as soon as choice can be made of the best. Maintain a night temperature of 60° to 65°, 70° to 75° by day artificially, so as to secure steady progress, and as the flowers open keep a rather drier atmosphere. Otherwise damp the paths two or three times a day, and where fermenting materials are not employed, sprinkle the floors occasionally with liquid manure.

Planted-out Vines Started Early in December.—Where the house was closed at the beginning of this month the Vines will have started to grow. The temperature should be gradually raised so as to have it 60° to 65° at night when they come into leaf, 70° to 75° by day in mild weather, but 65° is more suitable when the weather is dull and cold. Air should be given judiciously, as cold currents cripple the foliage irreparably, yet moderate ventilation is essential to sturdy growth and well-developed leaves. As the foliage enlarges root action will be promoted, and it should be accelerated by supplying top-dressings of phosphatic and potassic manures. Defer disbudding until the bunches show in the points of the shoots, and allow these to grow up towards the glass. The growths also should be allowed to make two joints at least beyond the fruit before stopping, pinching off the points when the leaves at the stopping point are about the size of a halfpenny, removing laterals at the same time. Supply water when needed to the inside border at a temperature not less than the mean of the house.

If the roots are partly outside, the border must be effectively protected from frost, and where they are entirely outside fermenting materials will materially assist root action and a steady supply of nutrition, but once used they must be added to from time to time to maintain the heat uniform at a temperature of 70° to 75° at the surface of the soil. This may be ascertained by plunging a thermometer with the bulb level with the base of the fermenting material. Damp the paths and borders two or three times a day, sprinkling the Vines occasionally, but avoid excessive syringing or a confined moist atmosphere, as it only favours aerial roots from the rods to the prejudice of proper root activity.

Houses to Afford Ripe Grapes in June.—The Vines that are to supply these should be planted at once. If the Vines are planted inside the outside borders should be protected with a thickness of leaves sufficient to exclude frost, but the Vines being planted outside the border will be advantageously covered with fermenting materials, two parts leaves and one part stable manure, both as fresh as possible, mixed, and put on so as to maintain a temperature at their base of 60° to 65°, and 70° to 75° when the Vines start into growth. Supply the inside border with water at a temperature of 60° to 65°, bringing it into an evenly moist but not saturated condition. Fuel may be economised by the free use of fermenting materials placed inside the house, turning a portion of them daily, and adding fresh as needed, so as to maintain a genial warmth, and the giving off of ammonia-charged moisture. This will also lessen the necessity for damping, otherwise damp the house and Vines two or three times a day when the weather is bright. In dull weather sprinkling the floor once or twice a day will be ample. The temperature should be 50° to 55° by artificial means, and 65° from sun heat. Young Vines or canes will need depressing to the horizontal line or lower, to insure their breaking regularly to the base.

Houses from which Ripe Grapes Have been Cut.—The Vines should be pruned as soon as possible, as when this is deferred beyond the turn of the days bleeding is more or less likely to follow; cut to a plump bud or eye as near the main stem as possible, consistent with a prospect of a good show for fruit. Vines in good condition will give fruit enough when pruned to one bud, but where this has not been the case, or the bunches were too small in previous years, the bearing shoots (called laterals) may be pruned to two buds, or left longer if those are not sound and plump. This will cause the spurs to become long in course of time, but it is easy to encourage growth from the base and cut the old spurs away, or train up young canes for the displacement of the old rods. All loose bark should be stripped off, especially on the spurs, no attempt at scraping being made, and the Vines washed with tepid soft soap and water (3 ozs. to a gallon of water). This is all that is necessary if the Vines are clean, otherwise follow with an approved insecticide. Cleanse the house thoroughly.

THE KITCHEN GARDEN.

Manuring the Ground.—Directly the ground is frozen hard the opportunity should be taken of wheeling on the manure. The more decayed manure, and also that obtained from farmyards, is best for the hotter or lighter soils, while for heavy soils comparatively fresh strawy horse manure ought to be preferred. Manure that is either too fresh or cannot yet be wheeled on to the ground should be placed in a heap. Waste of some portion of its fertilising properties will be prevented, and an increase in the bulk be brought about, by forming a bed of garden soil or loam 1 foot deep, on this shaking out and disposing the manure. After the heap is formed cover the upper surface with 6 inches of soil, and in this way the drainings will be absorbed by the under soil, and the ammonia given off by the manure absorbed by the covering of soil. When wanted for use, all should be mixed by completely turning the heap.

Vegetable Refuse.—Large accumulations of refuse from the kitchen garden can always be turned to good account. When not frosted the whole heap should be overhauled, separating sticks, stones, and other rubbish that either decays slowly, or not at all, from the rest. The reserved heap should be re-turned, mixing with it slaked lime at the rate of one cartload to about five cartloads of the refuse. When frost prevails wheel or cart this heap on to the ground ready for spreading and digging in later. The woody refuse should be reduced to ashes, a slow fire or "garden smother" accomplishing this with the least waste.

Treatment of Clayey Soils.—These are about the most difficult of all to cultivate, but properly treated they are among the most productive. Clayey soils naturally vary considerably in their composition. In many cases it is a good plan to dig early with forks in preference to spades, laying this up in rough spits with a view to frosts, winds, and rain effecting pulverisation. The tough Wealden clays of Kent and Sussex are not only dug up early and roughly, but they are further fined down by means of chopping with two-tined or Canterbury hoes prior to cropping. Occasionally clayey soil if dug early gradually becomes of the consistency of bird lime, so that in this case digging must not take place long before cropping. Ground that is clayey would be greatly improved in every way by the free addition of light sandy soil, leaf soil, ashes, soft ballast, or burnt clay, fine mortar rubbish, or anything that will prevent it from again running together into its old unworkable state. None of these materials ought to be dug in deeply.

Light Soils.—Some light sandy or gravelly soils are more retentive of moisture, and, therefore, more fertile than others. Much depends upon the nature of the subsoil. Very light soils would be greatly improved by an admixture of clay. If a small quantity of this cannot be brought up from below by the process of double digging or bastard trenching this should be done. Failing this, a surface dressing of strong clay should be given, distributing it on the surface, a cartload of this sufficing for two square rods of ground. After the lumps have been broken down by the action of frosts or winds and rain it should be more evenly distributed and then mixed with the top spit.

Digging and Trenching.—In numerous cases old garden soils, black in colour, would be much improved by the addition of a small portion of subsoil. Between the top spit and subsoil there is usually a thin layer of soil to be found that has repeatedly been loosened in digging but never brought to the surface. It is this that may safely be brought up either by taking more pains with the digging, sending in the spade more deeply than formerly, or, better still, by the process of double digging. Breaking up the bared subsoil with a fork further improves the ground, as this insures a more perfect drainage and taps a supply of moisture for the summer.

THE BEE-KEEPER.

SEASONABLE WORK.

At this season, when all is quiet in the apiary, there are many things in connection with the craft to take the bee-keeper's attention, a few of which may be here mentioned. There are doubtless many bee-keepers similarly situated to ourselves who are making arrangements for another year. In the first place a thorough overhaul is being made of spare hives, frames, and all the utensils in connection with the work. Hives that have been exposed to all weathers for several years are being repaired and painted with white lead. This is only done on the outside; we dress over the interior with Stockholm tar. The mixture is prepared in an old saucepan placed over a clear fire, into which is placed carbolic acid and Stockholm tar in equal parts. It must be kept constantly stirred, and be used whilst quite hot, well working the mixture into all the crevices. Should it take fire remove it at once, and place the back of a shovel, or something similar, over the top of the saucepan, and the flames will be instantly put out. Hives treated in this manner may be stored in a dry place, and will then be ready for use when required.

We make our own frames during the dull days of winter. A block is required for this purpose; it is then impossible not to make them true to measurement. Frames may now be obtained very cheaply from dealers, and many bee-keepers prefer to obtain them in this manner. A general list is also made of our requirements for another season. These are obtained and held in readiness for use. If everything is stored in good condition it is surprising the amount of trouble the bee-keeper is saved at the busy season. Wax foundation may be obtained at a cheap rate if taken in large quantities, and will keep in good condition for several years.

HOW TO COMMENCE BEE-KEEPING.

Another question that can be considered at this season, and which may be of use to beginners, is how and when to commence bee-keeping. We do not recommend intending bee-keepers to commence during the dark, dull days of midwinter, but with the advent of the new year and a change in the present inclement weather, a start may be at once made. There are various reasons why the early spring of the year is preferred to any other for commencing bee-keeping. At that time the bees have come safely through the winter, and an opinion may be formed as to the likelihood of their doing well.

In selecting a stock care ought to be taken to obtain only those which are headed by a young fertile queen. This may be easily ascertained. The old stock which swarmed last year and the cast or second swarm from the old stock will be headed by a queen hatched this year. The old queen always goes with the first swarm. Bearing these facts in mind, there should be no difficulty in obtaining a young queen. It will also be possible to tell whether she is fertile or not by observing the number of bees in the hive.

In making a selection it is advisable to move the hive from its stand, and if the bees are on the wing a puff or two of smoke blown in at the entrance will keep them quiet. The hive may then be turned up, and a selection should be made from those having straight combs, plenty of bees, and if well supplied with stores so much the better. A straw skep of fair average size at this season should weigh nearly 20 lbs. Bees vary in price slightly in different parts of the country, but a good stock in a straw skep may be obtained for ten shillings.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Oclogyne cristata (S. M.).—The temperature is quite sufficient, and the plant would be no worse if in 5° less heat, and it will be better to let the temperature fall to that extent than to make the pipes very hot on cold nights. The flower spikes push up from the base of the pseudobulbs, and ought to soon make their appearance. We cannot tell you whether the plant needs repotting or not; if you state the number of pseudobulbs and the size of the pot, we may be able to form an idea on the matter. After flowering is the time for dividing and repotting, and by that time we will publish cultural notes on this beautiful and easily grown Orchid.

Deutzia Leaf Brown at the End (F. G.).—There is nothing wrong with leaf but the usual brownness consequent on water lodging on and hanging from the end. This destroys the tissues and causes the brownness. The plant, however, ought now to be leafless, but has probably retained its leaves from being kept in the greenhouse. It should have been placed outdoors in the summer, and in the autumn plunged to the rim of the pot in coal ashes in a sheltered situation outdoors, where it ought to have remained until now, or later; then introduced to the greenhouse. It would flower in due time, if furnished with flowering buds. The plant is deciduous, and all the better for resting; indeed, that is necessary for its welfare.

Growing Violets in Pots for Profit (W. B.).—The proposal does not appear to us as likely to yield you much profit. We have grown Violets in pots, but they were of the "tree" kind on stems 6 to 12 inches high, and they answered their purpose, which was not for sale. The plants you have in view do not grow freely enough in pots all the summer to form good crowns and throw up flowers in sufficient profusion to pay. Plants well grown in the open ground, lifted and replanted under glass, do far better. There is, however, no certainty whatever that, deferring the lifting and replanting till January would be profitable, and in some seasons the Violets would not be worth the trouble involved. You have Chrysanthemums in the house till January, while strong Violet plants should be well established in their flowering positions long before then, and at no time subjected to a higher temperature than 50°, with a free admission of air. Your best way, perhaps, would be to pot the Violets in September, selecting plants with good crowns, and keep them in frames until the turn of the days and then transfer them to the house. Instead of potting the plants we have seen them established in rough narrow boxes made of 7-inch deal floor boarding, and when these were placed in the house as soon as space was afforded by the removal of the Chrysanthemums, and Tomatoes were not planted until March, the Violets answered very well. They were protected as needed until the house was ready for them. We shall be pleased if these suggestions are of any service to you.

Arum Blooms Deformed (Calla).—The blooms, or rather spathes, appear to be affected by damp, moisture being deposited on them at night or during foggy weather, causing the destruction of the tissues and consequent deformation and discolouration. We have also known it to arise from a sudden depression of temperature, the house having for some time been kept rather close and warm, and then on an outburst of sun, air being admitted too freely, resulting in excessive evaporation and a chill. It requires great care at this season to keep the flowers from being discoloured by damp. We have found it necessary to admit a little air constantly at the top of the house, and maintain a gentle warmth in the hot water pipes over that needed to secure the required temperature for the growth of the plants. In the temperature you name, 55° to 60°, the spathes ought to develop properly; the only danger is damping, and this is difficult to avoid during cold foggy weather, such as has prevailed for some time recently, and especially near large towns where sulphurous vapours often do irreparable mischief. We do not see that there is anything amiss with the treatment.

Analysis of Soil (Idem).—Any analytical chemist would analyse soil, and there are, no doubt, several in the large towns near your place. The Royal Horticultural Society undertakes analyses of soils for Fellows at a reduced rate; a full analysis in most cases costing about £3 3s. Is there not a County Council analyst in your county to whom you could refer for terms?

Silico-fluoride of Ammonium and Phenyle for Eelworms in Tomatoes (J. H. H.).—Mr. W. Mills, who was the first to suggest the use of this preparation in horticulture, stated about two years ago that it was not in commerce. His description for making it is shortly this:—"Obtain 1 lb. of the strongest hydro-fluosilicic acid, and dissolve in a quart of rain water. Then dissolve ½ lb. of the strongest ammonia (liquor ammoniæ fortis: 880 trade name) in another quart of rain water. Mix the two fluids, and allow the excess of silica (which is always present in the acid) to settle down, and the clear liquid will be a tolerably strong solution of the silico-fluoride, which must be greatly diluted with rain water before applying to plants. Cost of the ingredients about 1s. 6d. Though an agricultural chemist has stated (page 392, J. H., October 21st, 1897) that "hydrofluoric acid is frightful stuff to deal with," Mr. Mills avers that the ingredients he advises are "perfectly harmless."—(J. H., page 521, vol. 36, June 23rd, 1898). Mr. Abbey's exhaustive article on the subject follows on the same page. He found that 1 oz. of silico-fluoride of ammonium to 1 gallon of water killed eelworms in the soil, and did not injure the roots of Tomatoes, but was too strong for Cucumbers, though 1 oz. to 1½ gallon did not injure their roots. Mr. Poyser, of Cheshunt, has recorded (J. H., January 12th, 1899, vol. 38) that he dissolved 2 lbs. of the preparation in 32 gallons of water, and applied the solution to a border 10½ yards by 13 feet that had been prepared for and subsequently planted with Tomatoes, 160 plants; he found the crop a great improvement on the preceding one, though on pulling up the plants after bearing the eelworms had not all gone. Mr. Poyser thought it would be better to have the solution of half the strength, and apply in two waterings, turning over the soil between the operations. The quantity given could not sink into the soil very far. It would be a mere surface sprinkling; it is noteworthy, however, that a plant in a pot was killed by the 1 oz. to a gallon strength of the solution, but this plant probably received at least twice the quantity per area of soil surface that was given to the border, and every root in the pot would be reached. It will be perceived that whatever the efficacy of the preparation in question thoughtful care is requisite in its use. If you cannot procure the silico-fluoride of potassium, you may note the method of clearing out eelworms by a correspondent on page 565. He used phenyle and Veltha, but he does not say at what strength. Mr. Abbey has found 1 fluid oz. of soluble phenyle to 1 gallon of water safe for Tomatoes; 1 oz. to 1½ gallon safe for Cucumbers. Instructions for using Veltha are supplied by the vendors. Mr. Iggulden has found the use of 1 gallon of phenyle to 2000 gallons of water profitable, but he appears to use a good deal more water than do many cultivators.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. F. S.).—*Cymbidium giganteum*. (O. G.).—1, *Lycium europæum*, the Tea Tree; 2, *Raphiolepis integrerrima*. (Devon).—1, *Polypodium aureum*; 2, *Polystichum angulare*; 3, *Woodwardia radicans*; 4, *Cyrtomium falcatum*; 5, *Nephrolepis davallioides furcata*; 6, *Pteris umbrosa*.

TRADE CATALOGUES RECEIVED.

Dickson, Brown, & Tait, 43, Corporation Street, Manchester.—*Seeds*.
 Dickson & Robinson, Old Mill Gate, Manchester.—*Seeds*.
 J. Peed & Son, West Norwood.—*Begonias and Chrysanthemums*.
 E. Webb & Sons, Wordsley, Stourbridge.—*Seeds*.

COVENT GARDEN MARKET.—DECEMBER 27TH.

AVERAGE WHOLESALE PRICES.—FRUIT.

TRADE very quiet.

	s. d.	s. d.		s. d.	s. d.
Apples, English, per sieve	3 0	to 7 0	Lemons, case	4 0	to 15 0
" Canadian, barrel	10 0	15 0	Melons	0 6	1 6
" Nova Scotian, barrel	10 0	17 0	Oranges, per case	5 0	0 15
Cobnuts, per 100 lb.	60 0	70 0	" Tangerine, box	0 6	1 9
Grapes, black	0 6	8 0	Pears, Californian, case	6 0	9 0
" Muscat	1 0	6 0	Pines, St. Michael's, each	1 0	6 0

AVERAGE WHOLESALE PRICES.—VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz.	8 0	to 4 0	Leeks, bunch	0 8	to 0 0
Asparagus, green, bundle	5 0	6 0	Lettuce, doz.	1 6	2 0
" giant, bundle	15 0	20 0	Mushrooms, lb.	1 8	1 6
Beans, Jersey, per lb.	1 0	1 6	Mustard and Cress, punnet	0 2	0 0
" French Kidney, lb.	0 2	0 3	Onions, bag, about 1 cwt.	4 0	4 6
" Maderia, basket	8 0	4 0	Paraley, doz. bunches	2 0	4 0
Beet, Red, doz.	0 6	0 0	Potatoes, cwt.	2 0	5 0
Cabbages, per tally	7 0	0 0	" Teneriffe, cwt.	18 0	28 0
Carrots, per doz.	2 0	8 0	Seakale, doz. baskets	18 0	21 0
Cauliflowers, doz.	3 0	4 0	Shallots, lb.	0 8	0 0
Celery, per bundle	1 0	1 3	Spinach, per bushel	5 0	7 0
Cucumbers, doz.	4 0	6 0	Tomatoes, per doz. lbs.	2 0	5 0
Endive, doz.	0 9	1 8	Turnips, bunch	0 8	6 4
Herbs, bunch	0 2	0 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bunches	2 6	to 5 0	Maidenhair Fern, doz. bnch	6 0	to 8 0
Arums	12 0	18 0	Marguerites, doz. bnchs.	3 0	4 0
Asparagus, Fern, bunch	2 0	2 6	" Yellow, doz. bnchs.	6 0	9 0
Carnations, 12 blooms	2 6	3 6	Mimosa, per bunch	2 6	3 6
Cattleyas, per doz.	12 0	24 0	Mignonette, doz. bunches	6 0	8 0
Christmas Roses, doz.	1 6	2 6	Narcissus, white, doz. bun.	2 6	6 0
Chrysanthemums, white	6 0	9 0	" Yellow, doz. bunches	3 0	5 0
doz. blooms	6 0	9 0	" double, doz. bunches	2 6	4 6
" yellow doz. blooms	5 0	8 0	Odontoglossums	5 0	7 6
" bunches var.	0 6	1 6	Pelargoniums, doz. bnchs	8 0	12 0
Eucharis, doz.	6 0	8 0	Poinsettias, doz.	15 0	24 0
Gardenias, doz.	6 0	8 0	Roses (indoor), doz.	6 0	8 0
Geranium, scarlet, doz.	9 0	12 0	" Red, doz.	6 0	8 0
bnchs.	9 0	12 0	" Safrano, packet	2 0	3 0
Lilac, white, bundle	6 0	8 0	" Tea, white, doz.	3 6	6 0
Lilium Harrisii, 12 blooms	12 0	18 0	" Yellow, doz. (Perles)	5 0	7 6
" lancifolium album	8 6	4 6	Smilax, bunch	5 0	7 6
" rubrum	8 6	4 6	Violets, Parma, bunch	8 0	10 0
" longiflorum, 12 blooms	8 0	12 0	" dark, French, doz.	4 0	5 0
Lily of the Valley, 12 bun.	18 0	24 0	" English, doz.	3 6	4 6

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6 0	to 8 0	Ferns, small, 100	4 0	to 8 0
Arums, per doz.	18 0	24 0	Ficus elastica, each	1 6	7 6
Aspidistra, doz.	18 0	36 0	Foliage plants, var., each	1 0	5 0
Aspidistra, specimen	15 0	20 0	Lily of Valley, per pot	1 6	2 6
Chrysanthemums, per doz.	6 0	12 0	Hyacinths, Roman, per pot	1 6	3 6
Orotans, doz.	18 0	30 0	Lycopodiums, doz.	3 0	6 0
Dracena, var., doz.	12 0	30 0	Marguerite Daisy, doz.	10 0	18 0
Dracena viridia, doz.	9 0	18 0	Myrtles, doz.	6 0	9 0
Erica various, doz.	30 0	60 0	Palms, in var., each	1 0	15 0
Euonymus, var., doz.	6 0	18 0	" specimens	21 0	63 0
Evergreens, var., doz.	4 0	18 0	Poinsettias, per doz.	15 0	36 0
Ferns, var., doz.	4 0	18 0	Solanums, per doz.	9 0	18 0



FINIS.

It can hardly be twelve months ago since we bade our readers consider the days that were past, to gather lessons from their failures, and to gain strength from the thought of their successes. It is always of value, this time to pause; we hurry too much; reflection is quite a thing of the past, obsolete and old fashioned. We know so much more than our fathers that we do not care to ask for their advice, the concentrated wisdom of a lifetime. Would that we made as few mistakes as they. Would we had such a good balance at our bankers.

This has been a strange year; very fateful to us as a nation. We are passing through such experience as few of us can remember—days that remind us of the fearful struggle in 1853-54 with the Great White Bear of the North. The snows then were stained with the blood of our noblest and bravest; now it is the hot desert and burning

plain that form the graves of their brave descendants. Thank God that the race of "never know they are beaten" Britishers is not extinct. It is a fearful game, this of war, and we mourn as a nation—not with loud outbursts of grief, that is foreign to our nature, but with deep inward lamentation. In the midst of our tears we remember with exultation the marvellous deeds of heroism always to be found where the fight is the thickest and the carnage the bloodiest.

There has not been much of "Merry Christmas" about our gatherings this year. We cannot pass quickly from the grave to the gay. All we can do is to pray that the new year may dawn more hopefully, and that the sun of 1900 may not set in seas of blood.

We had a wonderfully mild winter and spring. The bitterest weather came, as it often does, in March, but happily it was not of long duration. The great drawback of the year has been lack of moisture. There was not sufficient winter rain to set the springs fairly agoing, and there came no weight of April showers, and none of the rainy June.

We did enjoy a real old-fashioned summer—"days of cloudless beauty." There was only the regret (and that was a sincere one), that the growing crops were suffering. It seems a strange statement to make, but there would be some late-sown Barley that hardly knew what a good rain meant; there would be passing showers, nice enough in their way, but tantalising.

The hay crop, though not so abundant as we have seen it, was good; and more than that, all of it was got in first-rate condition—no waste anywhere—and who but a poor farmer can fully estimate the value of a really good haystack, sound and sweet as a nut, with all the flavour and virtue left in? It goes as far again as inferior stuff, for cattle will not eat any sort of rubbish, and the faulty locks are quietly dropped outside the manger, and soon trodden into manure.

Wheat glories in warm dry weather, and consequently Wheat was the cereal crop of the year. There is no pleasanter sight than a large field of Wheat, bright and clean and upstanding, gently swaying with the breeze. Every ear has a chance of properly filling when it can get its meed of air and sunshine. No laid crops ever arrive at perfect maturity; there may be a big yield, but the quality is far from first-rate.

Barley is a fickle crop—it needs moisture and warm weather in its earlier stages, a little rain to prevent it becoming too dry and flinty, but no heavy soaking; its colouring is too delicate to stand a drenching. This year we have good quality and pretty colour, and some of us thought we were going to make a pot of money; but, alas! there has been little or no demand for English Barleys among the great brewers, and we are in despair. It appears so many of the sorts now universally grown do not meet the requirements of the brewers of the finest ales. There is a difficulty about the keeping qualities; so foreign Barleys are taking the place of English in the great houses, and the lesser are using—well, possibly neither English nor foreign Barley. We had better not inquire further.

There seemed at one time a chance that Wheat would realise a good price; it certainly went up for a short time, but soon fell back again. We never could see why the rise came. Of course it was attributed to the war cloud; but why a war in South Africa should affect the Wheat supplies was one of the things we could not grasp. However, a war scare always has that effect. War and high Wheat prices always run together.

If Barley suffered from drought, what about the Oats? Well, their case was very bad. On any moderate land they hardly made way at all. To compensate for small quantity, the prices rule fairly high. So far there has been found nothing that can take the place of the Oat as the best food for the best class of horses. There is something in the Oat that builds up bone and tissue, and leaves no superfluous fat. We do not kill and dress horses yet, and the fatty matter is much in the way. A plump sleek horse looks well, but it is not fat that endures a long hard day over fallows or Leicestershire grass.

As to the Potato crop, not only was there insufficient moisture, but the muggy weather of September and October induced disease; and of those that are not actually diseased, few samples use really well. They are not keeping well, and those farmers who are disposed

to hold will find plenty of employment for more hands than they can raise for sorting purposes. Let us only hope our markets will not be flooded by Continental consignments. If we can keep them away there is a prospect of better prices.

Alas for the poor sheep! For thirty years the Turnip crop has not been so bad—indeed, we might almost write it down as a failure. We kept hoping against hope, and the talk at the market ordinary in summer just ran in one groove. "Did you get the thunderstorm of last week? How much longer will your Turnips hold out without rain?" We always hope that September may mend matters; days ought to be cooler, rain ought to come. But alas! it did not; and what should be useful fields of Turnips are waste howling wildernesses. What is to become of the flocks of sheep? That is the question of the day. Many will find an untimely end, sacrificed because they will not pay to keep—indeed, many are worth no more than they were in July.

Good often arises out of evil; in all probability we shall hear of few losses at lambing time. It is excess of roots that plays havoc with breeding ewes, but let us hope they will be well kept on some good dry meat: it is the poorest policy in the world to starve a breeding ewe, and we fear it is done very much more than people imagine. If the cases of ill-luck at lambing could be traced to their source, a large percentage would be found to arise from insufficient feeding during the winter months.

If it is "down corn" it is "up horn." Beef pays this year, and will do. Happy is that man who has a yardful of stores ready, or thereabouts, for the butcher. We have been trying lately the foreign frozen beef, excellent hot, but dull eating cold, dry and juiceless. We do not deny it must be an immense boon to the man of limited income, but we fear we have been bred too long on English-fed to take kindly to any other. It holds pretty much the same place to English beef as the French red-legged partridge to the denizen of our hedgerows. It does not take an epicure to tell the difference.

There is one question that threatens to become of supreme importance—the labour question. Villages are decimated, the inhabitants flock to the towns, the young men talk of enlisting, the old of the hardships of isolated life. There has been the greatest difficulty this Martinmas in securing sufficient young men to live in, look after the horses, and the only married men available are those whose families are too big to admit of the possibility of making a move.

What panacea our rulers will find to stop the depletion of the rural districts is more than we dare imagine. Practically this is a greater question than rents or rates, tithes or prices—we leave it unsolved.

WORK ON THE HOME FARM.

Most good folks are holiday making, but legal holidays are no holiday for the farmer. True these short days curtail his working hours, but he has to put much good time in by the dim light of candle or lamp.

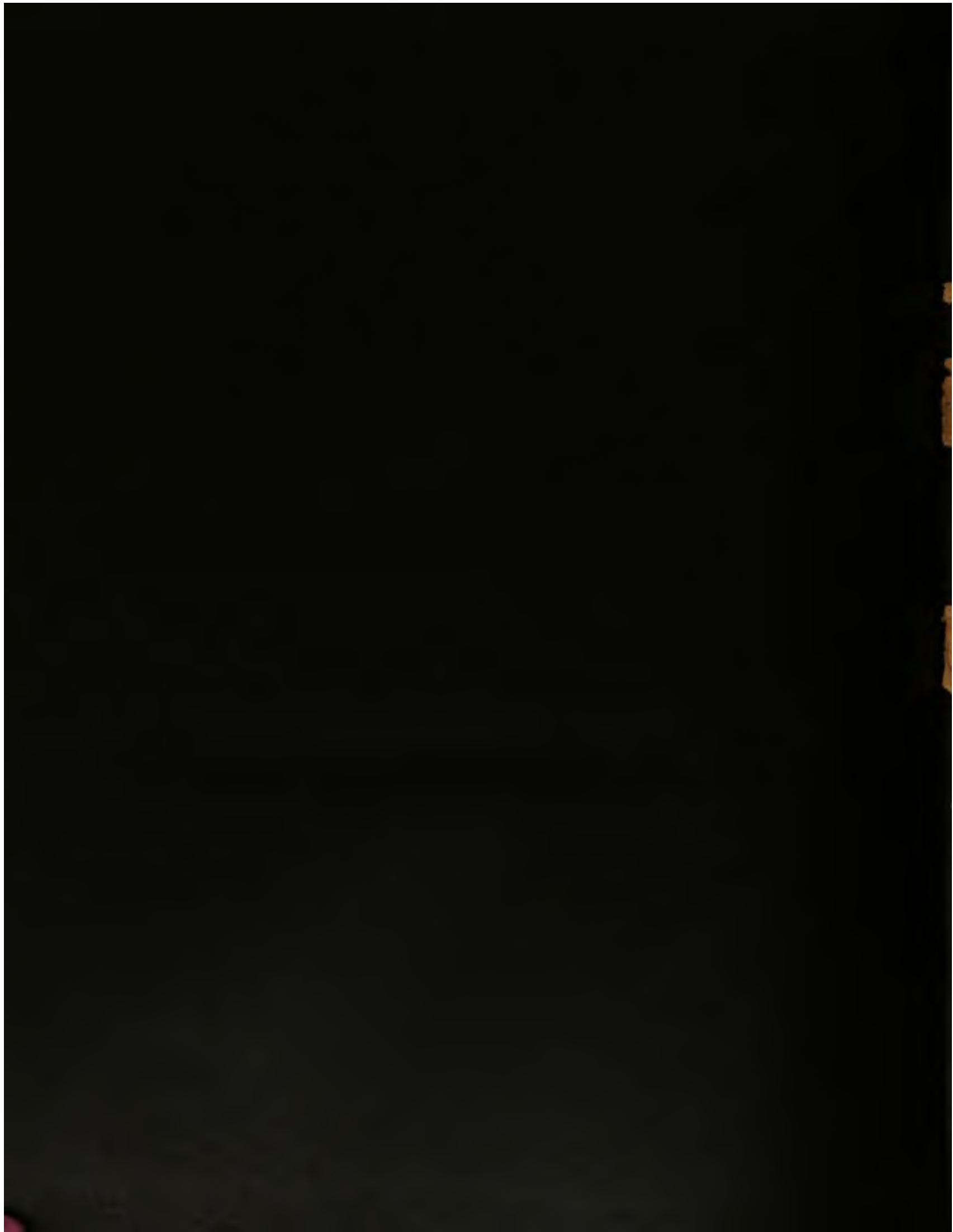
Any ploughing that there is to do was stopped by the frost, and the work of the frost is, in its way, as valuable as the work of the plough. This comfortable covering of snow has protected most effectually what few Turnips there are, and kept them from getting frozen hard. It does not, however, protect them from the beak of the wily crow, who is ever on the look out for something to eat. We should not grudge him one or two provided he finished them off cleanly, but he is too fond of sampling and spoiling all.

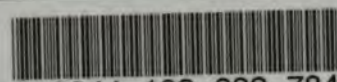
If there are any compost heaps the time to spread them on grass is when the ground is dry and hard, that is if there are hands enough to work the horses. There is a great "if" here, and the labour question is a most serious one. If the horses, by stress of weather or want of men, are kept much in the stable, they need less hard corn. It is a most advisable thing, we might say a real necessity, to put linseed cake in the water tub. One cake per horse per week is a suitable allowance, and the oil acts as a corrective to the dry, hard food. Let the farmer see to this himself, it pays.

There are hard-working days coming, and it is essential that the horses be in good condition to do their part. They cost enough in their keep, without being invalidated just when wanted.

The breeding ewes must be kept in fair condition; it is bad policy to let them run down. Good Barley is cheap, and therefore a little can be well afforded in their troughs.

ENGLISH AND CANADIAN TURKEYS.—Under the heading of "One of the Biggest Thieves in Canada," the following paragraph is going the rounds of the press:—"The purchaser of a turkey bought at Blackburn on Thursday found fastened under the wing the following message from Ontario: 'Dear Friend,—I hope you will enjoy eating this turkey. I am sure he never paid for his raising, for he was one of the biggest thieves in Canada. He is fourteen months old, weighs 35 lbs., and we sold him for 2 dols. 80 cents. Let me know what he is worth in England.' The turkey realised in Blackburn 22s. 8d." This seems to be an advance on the selling price of about 12s. Still, as the big bird appears to have stolen his food he would pay very well even at 3d. a lb. We understand that Mr. E. Molyneux has been selling turkeys, 27 lbs. in weight at nine months old, at, we suspect, nearly four times the price per lb. of the Canadian figures. So he will not be likely to migrate to the colony to rear turkeys.





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